

STRATEGIC AIRLIFT INEFFICIENCIES  
FROM DESERT SHIELD TO VIGILANT WARRIOR

A thesis presented to the Faculty of the U.S. Army  
Command and General Staff College in partial  
fulfillment of the requirements for the  
degree

MASTER OF MILITARY ART AND SCIENCE

by

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## ABSTRACT

STRATEGIC AIRLIFT INEFFICIENCIES FROM DESERT SHIELD TO VIGILANT WARRIOR  
by Major Philip A. Bossert, Jr., USAF, 137 pages.

This study analyzes the strategic airlift inefficiencies of planning and basing from DESERT SHIELD to VIGILANT WARRIOR. With the increasing importance of strategic mobility in U.S. defense strategy and the limited size of the strategic airlift fleet, it is imperative that airlift be utilized in the most efficient manner possible.

Planning is divided into deliberate (long-term) planning and crisis (short-term) planning. These areas are further subdivided into such specific areas as OPLANs, TPFDLs, communications with airlift planners and the airlift users, closure rates, C2 systems, in-transit visibility, and JOPES use.

Basing is divided into the availability of airfields and base infrastructure. These are further divided into the existence of enroute and forward operating bases, use of aerial refueling, stage bases, communications, use of Global Reach Laydown Packages, and trained personnel.

This study compares the strategic airlifts of RESTORE HOPE, SUPPORT HOPE, UPHOLD DEMOCRACY, AND VIGILANT WARRIOR using DESERT SHIELD as a benchmark. This study concludes that strategic airlift efficiency has improved because of the efforts of Air Mobility Command and U.S. Transportation Command, but more needs to be done.

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To the men and women of the Air Mobility Command, past, present, and future, who have made possible the greatest air mobility system the world has ever known and ever will know.

## LIST OF ABBREVIATIONS

ALCE	Airlift Control Element
AFFOR	Air Force Forces
AMC	Air Mobility Command
AME	Air Mobility Element
AB	Air Base
AFB	Air Force Base
AOR	Area Of Operations
APOE	Aerial Port of Embarkation
APOD	Aerial Port of Debarkation
ATC	Air Transport Command
BOS	Base Operating System
CENTCOM	Central Command
CINC	Commander In Chief
C2	Command and Control
C4I	Command, Control, Communications, Computers, & Intelligence
CALL	Center For Army Lessons Learned
CARL	Combined Arms Library
C2IPS	Command and Control Information Processing System
CC	Commander
CONUS	Continental United States
CONOPS	Concept Of Operations
CRAF	Civil Reserve Air Fleet
DIRMOBFOR	Director Mobility Forces

DOD	Department Of Defense
DSN	Defense Switching Network
EUCOM	European Command
FOBs	Forward Operating Bases
GDSS	Global Decision Support System
GRLP	Global Reach Laydown Package
GTN	Global Transportation Network
HF	High Frequency
HQ	Headquarters
ITV	In-transit Visibility
JAOC	Joint Air Operations Center
JOPES	Joint Operation Planning and Execution System
JTF	Joint Task Force
JULLS	Joint Universal Lessons Learned
MAC	Military Airlift Command
MAJCOM	Major Command
MATS	Military Air Transport Service
MHE	Material Handling Equipment
MOG	Maximum On the Ground
NCA	National Command Authorities
OPLAN	Operation Plan
OPORD	Operation Order
SAC	Strategic Air Command
SATCOM	Satellite Communications
SIOP	Single Integrated Operation Plan
TACC	Tanker Airlift Control Center
TALCE	Tanker Airlift Control Element
TFW	Tactical Fighter Wing
TPFDD	Timed-Phased Force and Deployment Data

TPFDL	Timed-Phased Force and Deployment List
UHF	Ultra High Frequency
UN	United Nations
USACOM	United States Atlantic Command
USCENTCOM	United States Central Command
USEUCOM	United States European Command
USTRANSCOM	U.S. Transportation Command
UTE	Utilization
VHF	Very High Frequency
WBL	Wide Body Loader
WWMCCS	Worldwide Military Command and Control System

CHAPTER 1  
INTRODUCTION

Introduction

To project military power, sustain it, and decisively win future conflicts, the United States must be able to execute deployable plans in a timely manner, gain access to local ports and airfields, and possess adequate airlift and sealift to accomplish the mission.<sup>1</sup>

U.S. Congress, Conduct of the Persian Gulf War

On 2 August 1990 President Bush defined the U.S. post-Cold War defense strategy during a speech at the Aspin Institute. The gist of his speech was the need to have highly ready, quickly deployable forces from the United States capable of responding to a variety of contingencies anywhere in the world. Coincidentally, this was the day 80,000 Iraqi troops swept into Kuwait.

The U.S. response to this invasion illustrated immediately the "global reach" aspect of Bush's new military strategy. Within two weeks, strategic airlift units airlifted over 30,000 troops and hundreds of tons of supplies and equipment to support the massive buildup, and this unprecedented air movement is credited with helping deter Iraq from continuing their aggression into Saudi Arabia.

The Clinton Administration has continued this emphasis on strategic mobility by making it one of the cornerstones of its defense program. President Clinton's fiscal 1995 defense budget places strategic mobility as the first priority under "protecting readiness and quality of forces," followed by other combat capabilities, and his latest national security strategy entitled "Engagement and Enlargement," states:

Our forces must be capable of responding quickly and operating effectively. That is, they must be ready to fight and win. This imperative demands highly qualified and motivated people; modern, well-maintained equipment; realistic training; strategic mobility; and sufficient support and sustainment capabilities.<sup>2</sup>

Strategic airlift, as the fastest and most flexible aspect of strategic mobility, has become increasingly important not only because of policy pronouncements by the last two presidents, but also because of recent world events. In the last four years, airlift has played significant roles in Southwest Asia, Somalia, Rwanda, and Haiti. In fact, General Ronald R. Fogleman, Chief of Staff of the U.S. Air Force and former Commander in Chief (CINC), U.S. Transportation Command (USTRANSCOM) and Commander, Air Mobility Command (AMC) from 1992 to October 1994, stated that, "AMC is a major player in every on-going military operation in the world today."<sup>3</sup> The operating tempo of strategic airlift forces has been at a back-breaking pace since Operation JUST CAUSE in December 1989, and no relief is in sight for these limited, yet crucial resources.

Despite the essential contribution that airlift makes in U.S. national security, it is increasingly overtasked, underfunded, and approaching a dangerously low level of readiness. During the Gulf War, approximately thirty-three percent of the C-5 fleet was grounded at any one time for maintenance; the C-141 fleet, the cornerstone of strategic airlift, has been periodically grounded for structural problems; and the C-17 Globemaster III, the next generation strategic airlifter, is overbudget, two years late, and currently limited at forty aircraft even though the Department of Defense has stated that it needs at least 120 of them.<sup>4</sup>

So today, four years after the biggest airlift in history, there continues to be disconnect between the requirements and the capabilities of the strategic airlift fleet. While DESERT SHIELD proved strategic



airlift's importance in the post-Cold War era, it also highlighted several serious inefficiencies. Two of these problems, planning and basing, were particularly troublesome.

In order to meet the continuing challenges and demands of the current military strategy, strategic airlift resources must be used more efficiently. A March 1993 Air Mobility Command White Paper entitled, "Air Mobility: Foundation For Global Reach," stated that, "As we downsize and restructure, air mobility forces must be utilized in the most efficient, effective, and militarily prudent manner."<sup>5</sup>

This thesis will analyze if and how these problems from DESERT SHIELD were corrected by comparing the DESERT SHIELD airlift with Operations RESTORE HOPE (Somalia), SUPPORT HOPE (Rwanda), UPHOLD DEMOCRACY (Haiti), and VIGILANT WARRIOR (Kuwait). This analysis will concentrate on corrective actions implemented and their results on the efficiency of these airlifts.

#### Problem Statement

We are out of money; it is time to think.<sup>6</sup>

Lord Rutherford, Cited by General Fogleman

Operation DESERT SHIELD was by far the biggest airlift in history. Every six weeks the equivalent of one Berlin Airlift, up to that time the world's biggest airlift, was accomplished.<sup>7</sup> Although the DESERT SHIELD airlift was successful, there were major problems that became evident immediately. These included: the lack of an operational plan (OPLAN) on which to base a transportation schedule, an "essentially useless" automated information system, an insufficient number of bases enroute and in theater, and poor base support at many of these locations.<sup>8</sup>

Numerous studies after the Gulf War indicated that the Military Airlift Command (MAC), now called Air Mobility Command, needed to make changes to improve airlift efficiency. Scores of lessons learned were collected from the DESERT SHIELD airlift, and work was done to correct these problems and implement corrective actions.

Demands on airlift have only increased since the Gulf War, even though overall the military as a whole continues to downsize dramatically. In this environment, all available airlift must be used in the most efficient manner possible, and to accomplish this the problems of planning and basing must be resolved.

#### Research Question

This thesis will attempt to answer the question, "Have the inefficiencies in strategic airlift planning and enroute basing improved since Operation DESERT SHIELD? The subordinate questions which will contribute to answering the research question include the following:

1. What components of strategic airlift planning are essential to an efficient airlift operation?
2. What effect does the base structure have on strategic airlift efficiency?
3. Did planning and basing inefficiencies improve between DESERT SHIELD and RESTORE HOPE? Why or why not?
4. Did planning and basing inefficiencies improve between RESTORE HOPE and SUPPORT HOPE? Why or why not?
5. Did planning and basing inefficiencies improve between SUPPORT HOPE and UPHOLD DEMOCRACY? Why or why not?
6. Did planning and basing inefficiencies improve between UPHOLD DEMOCRACY and VIGILANT WARRIOR? Why or why not?

### Background

One is left with an intangible but real side effect of the successful Gulf airlift . . . In any future contingency, we should be better prepared to plan and execute an airlift operation of this scale . . . They will carry these experiences with them, and undoubtedly will institute reforms and institutionalize successes learned from the Gulf airlift. But that is dependent upon ensuring that these skills and lessons are not lost.<sup>9</sup>

Lund, Berg, Replogle, An Assessment of Strategic Airlift Operational Efficiency

Airlift efficiency is measured in throughput, which is defined as "the amount of cargo and passengers moved out of, through, or into a specific location."<sup>10</sup> Although efficiency is not required to have a successful airlift, the advantages of an efficient process should be obvious: the ability to get the most out of a limited resource and cost savings. The search for efficiency in airlift operations is as old as airlift itself.

Strategic airlift came of age during WWII, and its development has been marked by constant attempts to improve its efficiency. The Air Transport Command (ATC) was established on 20 June 1942 by the Chief of the Army Air Force (AAF), General Henry H. "Hap" Arnold, to "permit the most efficient utilization of aircraft, facilities, and personnel by the elimination of dual responsibility and duplication of resources."<sup>11</sup> The ATC became responsible for ferrying all aircraft to the theaters, for the air transport of people, materiel, and mail, and for the control of bases along worldwide air routes.<sup>12</sup>

There was, however, a constant conflict throughout WWII between theater commanders and ATC for control of strategic airlift, even when the Air Staff established a policy for ATC control of airlift not assigned to the theaters. Responding to this situation, General Harold George, the first commander of ATC, said in August 1942 that "an efficient air transportation system is a primary function of the AAF,"

and that "many branches of the services as yet fail to realize the logistical requirements for transportation in the present conflict."<sup>13</sup> Subsequent directives from General Arnold lessened, but did not completely eliminate this problem.

As the war progressed, airlift efficiency continued to be a top priority. During Operation Torch in June 1942 ground crews were specially trained to handle air cargo in order to maximize each aircraft load. In June 1943 the ATC improved air transport efficiency by standardizing routes and establishing set operating procedures. These changes brought order and efficiency to cargo and passenger movement worldwide.<sup>14</sup> The famous "Hump" airlift in the China-Burma-India theater was under the most pressure of any theater in WWII to maximize throughput. Its goal was ten thousand tons per month in order to keep China in the war. This was eventually achieved by planning, opening additional airfields, improving training and maintenance, and improving safety.<sup>15</sup> As an ATC historian stated, "The ATC crowded airways to China were the proving ground, if not the birthplace, of mass strategic airlift."<sup>16</sup>

In 1944 the Air Staff directed a study concerning the "achievement of maximum efficiency in the accomplishment of various tasks undertaken by the air transport system."<sup>17</sup> This resulted in further consolidation of airlift resources under ATC.

The experiences of WWII proved that strategic airlift depended upon an extensive system of bases, intensive management by air transport experts, and a tightly controlled program of user priorities.<sup>18</sup>

The Berlin airlift of 1948-1949 made airlift efficiency a matter of life or death for the 2.5 million residents of West Berlin. With 5,600 tons airlifted per day the minimum required to sustain the city in the winter, a combined airlift task force was created to "deliver to

Berlin, in a safe and efficient manner, the maximum tonnage possible, consistent with the combined resources of equipment and personnel made available."<sup>19</sup> This was accomplished very proficiently by utilizing eleven airfields with specially trained aircraft loading and unloading crews, detailed planning which permitted planes to fly into Berlin in three air corridors at six minute intervals, and extensive training.<sup>20</sup>

The Korean War continued the trend of maximizing airlift throughput. General William Tunner, the Commander of the Combat Carrier Command, later renamed the 315th Air Division, said that with better planning, support, and adequate airfields in Korea, they could have delivered 8,000 tons a day during MacArthur's offensive, perhaps allowing United Nations (UN) troops to reach the Yalu before the Chinese intervened.<sup>21</sup>

During the Vietnam war, MAC which replaced the Military Air Transport Service (MATs) in 1966, increased throughput by moving its aircraft through the airlift system as quickly as possible. The introduction of the first military jet transport, the C-141, and later the giant C-5, obviously contributed to achieving this, but improvements in enroute bases also helped. General Howell Estes, the commander of MAC from 1964 to 1969 said that he was "convinced that positive command control of the MAC airlift forces is the key to achievement of the higher utilization rates and successful mission accomplishment."<sup>22</sup>

Operation NICKEL GRASS, the U.S. resupply of Israel during the 1973 Yom Kippur war, highlighted the importance of bases and planning. Lajes Air Base in the Azores was the only available stop enroute between the United States and Israel, and it could only handle twenty-five C-141s or five C-5s on the ground at one time.<sup>23</sup> Precise planning allowed 22,395 tons of supplies to be airlifted over a thirty-two day period, and the importance of air-refueling airlifters became apparent.<sup>24</sup>

In 1975, General Paul Carlton, then Commander of MAC, "Thought it extremely important to determine how present assets could be more efficiently managed and effectively utilized."<sup>25</sup> This theme of improving airlift efficiency continued through the 1970s and helped pave the way for the C-X program, now called the C-17. MAC documents stated that the C-17 would have improved throughput in DESERT SHIELD by 50 percent, and more recently General Fogleman stated that the tonnage off-loaded in Somalia would have increased by forty-one percent with this aircraft.<sup>26</sup>

But even with five decades of experience in improving strategic airlift efficiency, Operation DESERT SHIELD still experienced many problems. Although the DESERT SHIELD airlift was a success, the post-Cold War environment of decreasing military funding and increasing demands has made strategic airlift inefficiencies less tolerable. General Ronald R. Fogleman said in his August 1994 Report to Congress on the state of defense transportation preparedness that:

We must look for ways to improve our effectiveness while reducing the cost. We must build a better defense transportation system-one that is designed to meet the needs of the combatant commanders at the best value to the American taxpayer.<sup>27</sup>

Operations RESTORE HOPE, SUPPORT HOPE, UPHOLD DEMOCRACY, and VIGILANT WARRIOR were excellent tests of whether two of the most serious strategic airlift inefficiencies of DESERT SHIELD, planning and basing, were corrected.

#### Definitions

Aerial Port of Debarkation (APOD). An aerial port that has been designated for the sustained air movement of personnel and materiel and to serve as an authorized port for entrance into the country where it is located.<sup>28</sup>

Aerial Port of Embarkation (APOE). An aerial port that has been designated for the sustained air movement of personnel and materiel and to serve as an authorized port for departure.<sup>29</sup>

Civil Reserve Air Fleet (CRAF). "A voluntary civil and military partnership which uses commercial aircraft to support DOD airlift requirements during airlift emergencies."<sup>30</sup>

Joint Operation Planning and Execution System (JOPES). A system used "to monitor, plan, and execute mobilization, deployment, employment, and sustainment activities associated with joint operations."<sup>31</sup>

Strategic Airlift Assets. The long range or intertheater airlift assets of AMC, including C-5s, C-141s, KC-10s, C-17s, and CRAF aircraft.

Strategic Airlift System. A worldwide system of aircraft, aircrews, maintenance and supply organizations, and aerial ports tied together by a command and control network.<sup>32</sup>

Strategic Mobility. "The capability to deploy and sustain military forces worldwide in support of national strategy."<sup>33</sup>

United States Transportation Command (USTRANSCOM). Headquartered at Scott AFB, IL, this unified command was originally chartered by President Reagan to, "provide air, land, and sea transportation for the Department of Defense in wartime," but on 14 February 1992 it acquired a peacetime mission also. It is currently the nation's single manager of defense transportation resources in peace and war.<sup>34</sup>

Worldwide Military Command and Control System (WWMCCS). The system that provides the means for operational direction and technical administrative support involved in the function of command and control of U.S. military forces.<sup>35</sup>

### Delimitations

Several constraints have been imposed on this thesis to make it manageable. First, only five airlifts have been analyzed, with the Somalia, Rwanda, Haiti, and Kuwait airlifts being compared to the 1990 Gulf deployment. These strategic airlifts encompass a four year period which is adequate for determining if inefficiencies were corrected.

The second delimitation involves the number of inefficiencies to be analyzed. Several studies of the DESERT SHIELD airlift identified problems in aircraft performance, aircrew availability, planning, and basing. This thesis will concentrate on planning and basing in order to focus this study and to make these five airlifts comparable, despite the difference in their sizes. Also, planning and basing inefficiencies will be studied because these problems could have been corrected over a two to four year period. Finally, aircrew availability and aircraft performance have not changed significantly during this time period.

### Significance

We have learned and must not forget that from now on air transport is an essential element of airpower, in fact, of all national power.<sup>36</sup>

#### General H. H. (Hap) Arnold, Airlift Doctrine

The research in this thesis is important because it will help determine if key strategic airlift inefficiencies of DESERT SHIELD have been corrected. This determination is very significant because in the post-Cold War era, strategic airlift has taken a prominent role in U.S. military strategy, even though this new role has pushed airlift taskings to a record breaking pace. Until more airlift capability becomes available, the current strategic airlift system must be made more efficient to adequately meet the taskings mandated by the national military strategy. According to General Fogleman:



As the nation and the Air Force continues to reduce overseas presence and we come to increasingly rely on a CONUS-based contingency force, the air mobility system becomes absolutely critical to every military and humanitarian operation that we wage around the world.<sup>37</sup>

Today AMC is a major part of every American military and humanitarian operation in the world.

There are other reasons for improving strategic airlift efficiency. Ten years ago 500,000 U.S. troops were stationed overseas. By 1999 there will be fewer than 175,000. In addition, most defense war reserve materiel and other supplies are being centralized into fewer depots, and the current strategy to fight two nearly simultaneous major regional contingencies relies on the ability to move this material and troops rapidly.<sup>38</sup> Also, a future adversary may not give the United States as much time to deploy forces as Saddam Hussein did during the Gulf War. Therefore, rapid global air mobility lies at the heart of a credible deterrent strategy today; without the capability to project forces, there is no conventional deterrent.<sup>39</sup>

Today, strategic mobility has become the first weapon of choice in resolving conflict, so much so that the U.S. Transportation Command has been dubbed by some as the "UN" Transportation Command because of the number of countries that have been supported in the last four years.<sup>40</sup> During 1991 and 1992, AMC conducted three times as many air movements and humanitarian operations compared to the 1989 to 1990 period.<sup>41</sup>

But despite strategic airlift's increasing importance in the post-Cold War era, it is in a precarious position. According to General Fogleman, "we are in danger of losing it."<sup>42</sup> The C-141, the core airlifter, was designed in the 1950s and is approaching retirement earlier than forecasted; the C-17 is currently capped at 40 aircraft pending a DOD review in late 1995; and there are fewer facilities and less support for the strategic airlift fleet worldwide. The current

situation is such that Lieutenant General Vernon Kondra, the MAC Deputy Commander for Operations during the Gulf War, does not think we could mount another airlift of this magnitude today.<sup>43</sup>

The current situation of constant, unending demands and decreasing resources has forced AMC to look for ways to increase effectiveness while decreasing costs. One of the optimal approaches to accomplish this would be to correct the inefficiencies of the biggest test of airlift in history, DESERT SHIELD, because if one can meet the challenges of a near-maximum effort airlift, smaller contingencies should then be able to run more smoothly.

ATC, MATS, MAC, and now AMC have attempted to increase airlift efficiency for over forty-five years. Two inefficiencies of the Gulf War strategic airlift, planning and basing, showed that much still needs to be done to maximize our limited and vital strategic airlift resources.

History shows that these problems should have been corrected. This thesis will see if they have. In the post-Cold War era, the answer to this analysis could have serious implications for U.S. national security.

## CHAPTER 2

### LITERATURE REVIEW

Reading is to the mind what exercise is to the body.<sup>1</sup>

Sir Richard Steele, The Tatler.

#### Introduction

The amount and quality of research material is adequate for this thesis. There is sufficient information on the history of strategic airlift, the importance of improving airlift efficiency, the organization of the airlift system, and the airlifts to the Gulf, Somalia, and Rwanda. However, while several comparisons have been made between these airlifts, none have analyzed them in terms of improvements in airlift efficiency.

The information for this literature review was conducted from July 1994 through February 1995. It involved the use of the Combined Arms Research Library (CARL) at Fort Leavenworth; the Center for Army Lessons Learned (CALL) also located at Fort Leavenworth; two trips to USTRANSCOM and AMC at Scott AFB, Illinois; phone calls to various agencies at USTRANSCOM, AMC, and USAF/XOFM (Mobility Forces Division) at the Pentagon; and use of the Army Automated Historical Archives. The historians at USTRANSCOM and AMC, Dr. James Matthews and Dr. John Leland, respectively, were especially helpful.

The research material gathered falls into eight major categories. These include the historical background of airlift, the increasing importance of strategic airlift in the post-Cold War era, the organization and operation of the airlift system, the Operation DESERT

SHIELD, RESTORE HOPE, SUPPORT HOPE, UPHOLD DEMOCRACY and VIGILANT WARRIOR strategic airlifts, and current and planned improvements in the airlift system. Except for the section on airlift history, most of my research covers the last five years and is as recent as February 1995.

#### Historical Information

Several sources provided a solid foundation on the historical development of strategic airlift. The book Airlift Doctrine, published by Air University Press at Maxwell Air Force Base (AFB) provides perhaps the most extensive information on this topic. The author, Lieutenant Colonel Charles Miller, United States Air Force (USAF), traces the development of strategic and tactical airlift from the early days of manned flight through the mid-1980s. One of his key themes is that the evolution of airlift has been marked by improvements in its efficiency and effectiveness, and has increasingly become more important in U.S. national security. Airlift Doctrine is arguably the most comprehensive historical examination of airlift in print today.

Over The Hump by Lieutenant General William H. Tunner is a much more personalized account by an individual who was actually involved in making the history of airlift. General H. T. Johnson, USAF (retired), a former commander of MAC/AMC and USTRANSCOM, has called Tunner, "One of the most important figures in United States Air Force history and especially in the history of the Military Airlift Command."<sup>2</sup> As the organizer and leader of the famous "Hump" airlift in the China-Burma-India theater during WWII, the Berlin and Korean airlifts, and commander of MATS, Tunner helped make possible the great achievements of airlift.

One of the key thoughts in Over The Hump is Tunner's constant quest to get the maximum throughput from his airlifters, the importance of placing all USAF airlifters in one command to improve their

efficiency, and the observation that military airlift requires a special expertise that is developed through training and experience.

To underscore this book's significance, General Johnson has said that Tunner's insights "Will be as valid for future airlifters as they have been for both present and past leaders."<sup>3</sup>

Several shorter works provide concise insights into the history of strategic airlift, but one is particularly valuable. In his February 1993 speech to the Air Force Association, General Ronald R. Fogleman tied the historical development of airlift to its increasing importance in the post-Cold War era. He states that "AMC is a major part of every American military and humanitarian operation in the world today . . . and of every one planned for the future," and that "As the nation and the Air Force continue to reduce overseas presence . . . the air mobility system becomes absolutely critical to every military and humanitarian operation that we wage around the world."<sup>4</sup> In just a few well-written pages, General Fogleman tied the progression of strategic airlift from WWII to the present "Global Power, Global Reach" period, emphasizing the great challenges strategic airlift faces today with increasing demands and decreasing capabilities. This article provides a good transition to the literature highlighting the significance of this thesis.

#### Significance

There is no shortage of information about the increasing importance of strategic airlift, especially about the need for improving airlift efficiency in the post-Cold War era.

Speeches by President Bush and General Fogleman clearly explained the great importance of strategic mobility today. Bush's landmark defense speech, "United States Defense: Reshaping Our Forces," discusses the need to have adequate airlift and sealift capacities to respond to

rapidly developing threats.<sup>5</sup> General Fogleman echoed these facts in his 1994 remarks to the St. Louis chapter of the Council on Foreign Relations when he said that "The mere capability to rapidly project forces is a powerful deterrent to aggression," and that "Air mobility is much more than a transportation mode--it is an instrument of policy and a war fighting tool."<sup>6</sup>

Three additional sources clearly state the importance of strategic mobility, especially strategic airlift, today. The 1993 AMC White Paper entitled "Air Mobility: Foundation For Global Reach" explains the five Air Force contributions to the post-Cold War national security strategy: "deterrence, power projection, rapid global mobility, global awareness via space and C3I, and nonlethal airpower like humanitarian support."<sup>7</sup> Because air mobility is the most rapid and flexible part of strategic mobility, it takes center stage.

Adding further importance to strategic airlift is Chairman of the Joint Chiefs of Staff, General John M. Shalikashvili. In Defense 94 he writes that "The complexion and balance of deterrence today rests much more strongly on conventional forces. To go a step further, it rests much more on our readiness to fight and to win decisively using conventional force."<sup>8</sup>

In a Defense Transportation Journal article reporting General Fogleman's annual report to Congress entitled "The State of Defense Transportation Preparedness," General Fogleman states that "[I]t is clear that strategic mobility will increasingly become the linchpin in our national security strategy," and that "Strategic mobility will remain the first weapon of choice in peace and war."<sup>9</sup>

### The Airlift System

A number of articles and Air Force papers gave detailed information about how the strategic airlift system operates in peacetime and in war. The most common theme in all these sources is that airlift is much more than simply aircraft and aircrews. In the MAC paper "Maintaining the Airlift System," Major Jackson explains in detail the workings of this system. He defines the airlift system as a "worldwide command and control network that ties together aircraft, aircrews, maintenance and supply organizations, and aerial port operations to serve the most vital part of the system--the airlift user."<sup>10</sup>

A second theme in "Maintaining the Airlift System" is the importance of unity of command, and this paper argues the logic of placing all airlift aircraft in MAC. The 1993 AMC White Paper about air mobility also gives an adequate overview of the strategic airlift system, including the crucial contributions of the Guard, Reserve, CRAF, the global enroute system of bases and Command, Control, Communications, Computers, and Intelligence (C4I), the Tanker Airlift Control Center (TACC), and Air Mobility Wings. It should be noted that only twenty-five percent of strategic airlift capability is in the active duty Air Force; another twenty-five percent is in the reserve components, and the remaining fifty percent of strategic airlift capability available to the Department of Defense is in the CRAF.<sup>11</sup>

This White Paper's recommendation to place all airlift forces in one command is not an original idea. This "echo from the past" from General Tunner is apparent not only in the oral interviews of Generals Johnson and Kondra, but also in the USAF Air Mobility School Learning Guide.

### Operation DESERT SHIELD

There are a number of excellent sources about the performance of strategic airlift during Operation DESERT SHIELD. Two sources were commissioned by the U.S. Air Force. In RAND's Gulf War study entitled, An Assessment of Strategic Airlift Operational Efficiency, analysts Lund, Berg, and Replogle provide detailed and penetrating insight into the biggest airlift in history. They conclude that the airlift was a success, but there were serious problems including nonexistent prior planning, an archaic and nearly ineffective command and control system which often resulted in the use of pencils and yellow pads, unrealistic planning factors, slow crisis response, and units that were not ready to be airlifted.<sup>12</sup> This study was a major inspiration in deciding to examine if the problems of planning and basing have improved since the Gulf war. In the Gulf War Air Power Survey, Volume III - Logistics and Support, written by Dr. Elliot Cohen, many themes mentioned in the RAND study were highlighted.

Two additional sources about the DESERT SHIELD strategic airlift were also useful. Dr. James Matthews' book So Many, So Much, So Far, So Fast presented a thorough view of USTRANSCOM's performance in the Gulf War. He discusses the synergism that USTRANSCOM provided for the entire transportation system and recalls how General H. T. Johnson characterized the command's attempt at fixing its C4I systems as a good start at efficiency.<sup>13</sup> A shorter study by the AMC historian, Dr. John Leland, concisely analyzed this airlift with an emphasis on his command's role. In "Air Mobility in Operation DESERT SHIELD/STORM: An Assessment," Leland concentrates on the planning and management of the Gulf airlift. He characterizes the inefficiency of the airlift as, "Too much airlift was scheduled, not enough airlift was tasked, or the wrong type of airlift was planned."<sup>14</sup>



### Operation RESTORE HOPE

Good sources were also found about the RESTORE HOPE airlift deployment, although not nearly as much has been written about this operation compared to DESERT SHIELD. The first source is from CALL entitled, "Operation RESTORE HOPE Lessons Learned Report." Although the airlift deployment analysis is only a small portion of this huge study, it is very insightful and informative for the purposes of this thesis. For example, it states that "The most significant deployment lesson learned during Operation RESTORE HOPE was the importance of maximizing both the use and reliability of critical strategic lift assets."<sup>15</sup> It also mentions the recurring problems with JOPES, urges further refinements in this system and admonishes Army units for not having personnel trained to update the Time-Phased Force and Deployment List (TPFDL) into JOPES. Another RAND study, this one prepared for the U.S. Army, echoes these criticisms but goes further in detailed analysis. This study by David Kassing entitled Transporting the Army for Operation RESTORE HOPE discusses several areas which he recommends be improved, including communications between transporters and users, providing easier access to JOPES, and training units to be more prepared to be deployed on short notice.<sup>16</sup> He states that these improvements would allow AMC to make its operations more efficient.

Four oral histories provide detailed insights into numerous aspects of both the Gulf and Somalia airlifts. These include interviews of General H. T. Johnson, Lieutenant General Vernon J. Kondra, Lieutenant General James D. Starling, a former Deputy CINC USTRANSCOM, and Colonel Daryl L. Bottjer, a former Director of the TACC Current Operations Division.

### Operation SUPPORT HOPE

There were several good sources of research about the Operation SUPPORT HOPE strategic airlift to Rwanda. However, there is less information about this operation currently available because of its recent nature (July-October 1994). CARL, CALL, and AMC have all been very helpful in providing timely information, and several articles in the Air Force Times and other periodicals have provided relevant material.

The information from CALL is perhaps the most revealing to date. Observations recorded by Air Force airlifters directly involved in the Rwanda operation are examined and recommendations are proposed. These lessons learned range from inadequate equipment in theater, to untrained transport planners in U.S. European Command, to lack of In-transit Visibility (ITV), and inefficient use of airlift aircraft.<sup>17</sup> However, bright spots included TACC operations and the overall success of this airlift. Several articles and papers sent to me by the AMC history office provided good summaries of the SUPPORT HOPE airlift. In a series of Air Force Times cover story articles entitled "Pushing the Limits: Will Airlift Missions Wear Out the Force?" comprehensive information is given on strategic airlift contributions in Rwanda.

Additional articles were provided by CARL from the New York Times, London Telegraph, and Associated Press; other news organizations provided good details on the airlift, including the number of missions and personnel deployed.

### Operations UPHOLD DEMOCRACY and VIGILANT WARRIOR

Despite the very recent nature of these two airlifts, there was sufficient information to analyze them in this thesis. Several reports and briefings from AMC and CALL along with articles in periodicals such

as the Air Force Times, various newspapers and news services, and point papers and press releases from AMC were very useful.

Interviews conducted at AMC and CALL and additional queries using the telephone and fax completed this research. Especially helpful were Colonel James Dickensheets, Director of Current Operations at HQ AMC/TACC; Lieutenant Colonel Charles Peterson, Chief Contingency Operations, HQ AMC/TACC; and Lieutenant Colonel John Crary, Chief of Collections Division at CALL.

#### Planned Improvements in Strategic Airlift

Several sources examine how AMC and USTRANSCOM are attempting to implement lessons learned from these five airlifts and to better position themselves in the post-Cold War period. In the April 1994 "USTRANSCOM Posture Statement," General Fogleman discusses numerous issues facing both his commands. It is heartening to know that USTRANSCOM has placed acquiring a new "core airlifter" as their number one priority, that they are still working to solve numerous command and control problems, and are attempting to reengineer the entire defense transportation system at the "best value to the American taxpayer."<sup>18</sup> The gist of this document is that both USTRANSCOM and AMC are leaning forward to improve their effectiveness while reducing costs.

In the 1994 AMC White Paper entitled "In Support of Global Reach," a streamlined but more effective mobility support structure is introduced with Global Reach Laydown Packages (GRLP) as the key ingredients. But again, no timetable is set to implement this new concept.

In "USTRANSCOM 1st Year Assessment," Brigadier General John Handy explains how JOPES is improving but still has problems. And in the article, "TRANSCOM Deputy Says Gulf War Lessons Learned are Being

Implemented," Lieutenant General Kenneth Wykle discusses how the command plans on improving ITV with an improved Global Transportation Network (GTN).

Additional articles in Air Force Magazine, the Air Force Times, Defense Transportation Journal, Joint Force Quarterly, and papers from USTRANSCOM and AMC provide excellent information on current and planned improvements in strategic airlift planning, basing, and other problem areas.

#### Summary

Over one hundred sources have been collected that provide a balanced and comprehensive overview of research that is sufficient for this thesis. No works have been found that tie the DESERT SHIELD, RESTORE HOPE, SUPPORT HOPE, UPHOLD DEMOCRACY, and VIGILANT WARRIOR airlifts together using planning and basing as the basis of comparison.

## CHAPTER 3

### METHODOLOGY

Successful generals make plans to fit circumstances,  
but do not try to create circumstances to fit plans.<sup>1</sup>

George S. Patton, Jr., War As I Knew It

#### Introduction

This thesis will examine the question, "Have the inefficiencies in strategic airlift planning and enroute basing improved since Operation DESERT SHIELD?" by comparing and contrasting the DESERT SHIELD airlift with four subsequent airlifts. These airlifts are Operations RESTORE HOPE, SUPPORT HOPE, UPHOLD DEMOCRACY, and VIGILANT WARRIOR. This will be a historical, sequential analysis, using the problems of planning and basing as the basis of comparison.

Chapter 4 will explain in detail the DESERT SHIELD strategic airlift. Chapter 5 will compare and contrast the RESTORE HOPE airlift with DESERT SHIELD to see if problems with planning and basing were corrected. Chapter 6 will then analyze the SUPPORT HOPE airlift with both the Gulf and Somalia airlifts using planning and basing once again as the basis of comparison. Chapters 7 and 8 will analyze the airlifts to Haiti and Kuwait respectively to determine if the problems during the Gulf airlift were finally resolved.

This analysis will be both objective and subjective with little use of statistics. This thesis is simply looking for improvements in the strategic airlift inefficiencies of planning and basing. The factors of planning and basing will be used for several reasons. One, planning and

basing tend to be significant regardless of the size of an airlift. Two, improvements could have been implemented between the start of DESERT SHIELD and the beginning of VIGILANT WARRIOR. Three, these two inefficiencies need to be improved in order to maximize the dwindling strategic airlift resources in the post-Cold War era. Before these inefficiencies of planning and basing are explained in detail, one must first get an overview of how the strategic airlift system operates.

The term "strategic airlift" means much more than simply aircraft and aircrews. The airlift system also consists of a global enroute system of bases, C4I, maintenance and supply organizations, aerial port facilities, training units, air mobility wings, reserve components, CRAF, and much more.<sup>2</sup> According to Dr. Leland, these various elements "must operate smoothly to produce maximum efficiency."<sup>3</sup>

The United States Air Force has the world's largest and most responsive strategic airlift system. It is managed by Air Mobility Command, a major command (MAJCOM) of the USAF and one of three component commands of USTRANSCOM. AMC's mission is to provide "rapid, global mobility and sustainability for America's armed forces."<sup>4</sup> It accomplishes this mission with over 700 aircraft including C-141s, C-5s, KC-135s, KC-10s, and others, and with 155,000 people at 182 installations worldwide.<sup>5</sup> The global enroute support system is controlled by the TACC at Scott AFB, Illinois. Working under the direction of USTRANSCOM, AMC typically flies over one hundred missions a day to over thirty-nine countries.<sup>6</sup>

The mission of USTRANSCOM is "To provide air, land, and sea transportation for the Department of Defense, both in time of peace and time of war."<sup>7</sup> USTRANSCOM is also headquartered at Scott AFB, where it collects requests for strategic lift and decides what mode of lift to use. It then passes the request to AMC for execution.<sup>8</sup>

With this understanding of how the strategic airlift system works, a review of the terms planning and basing as they will be used in this thesis follows.

### Planning

According to the RAND study of the Gulf airlift, planning consists of both deliberate (long-term) planning and execution (crisis action) planning.<sup>9</sup> Adequate planning is required to optimize airlift, and the old Army adage that "prior planning prevents poor performance" is equally applicable to strategic airlift.

Long-term planning involves the development of war plans, or OPLANs as they are officially referred to. These OPLANs include transportation plans with a very detailed data base called a TPFDL.<sup>10</sup> The TPFDL specifies when and how each unit supporting the OPLAN will deploy, and is optimized to achieve the fastest possible closure of forces. Closure is simply the latest time an entire unit will arrive at its destination. Transportation must be well coordinated with the user to insure the plan is feasible from a transportation perspective.<sup>11</sup>

Once an OPLAN is executed, it is crucial to have the ability to update changing TPFDLs and to communicate these changes throughout the airlift system. JOPEs is such a system and is used to execute command and control over deployment operations.<sup>12</sup> But for JOPEs to be effective, there must be trained JOPEs operators, reliable TPFDLs, and adequate worldwide communications.

JOPEs is also the interface between long-term planning and execution planning. Ensuring a smooth execution of an OPLAN requires not only a transportation-feasible OPLAN, but also realistic planning factors to estimate closure times and effective, immediate communications between the airlift system and the airlift user. Planning factors include

utilization rates, mission capable rates, and payloads along with planning assumptions.

Once a contingency begins, changing requirements create the need to alter airlift planning, sometimes drastically, and the ability to effectively respond to these changes has a major impact on overall airlift efficiency. One change poorly managed can ripple throughout the entire system causing multiple problems.

One final aspect of execution planning that will be examined is ITV. The following question matrix summarizes how this thesis will compare the planning aspect of the five strategic airlifts analyzed in this study:

Long-term planning:

Did an OPLAN exist for this scenario prior to crisis action planning?

Did a transportation-feasible TPFDL exist?

Were personnel from USTRANSCOM and/or AMC involved in the planning process?

Were planning factors realistic?

Execution planning:

How effective were communications between AMC, TRANSCOM, and the users?

Was there an adequate number of JOPES-trained operators available at the deploying units?

Were last minute changes to the TPFDL efficiently input into JOPES?

Was in-transit visibility adequate?

What percentage of missions closed on time (defined as arriving within two hours of scheduled arrival time)?



### Basing

While both long-term planning and execution planning are required for efficient use of the strategic airlift system, adequate basing is required to allow planning to be successfully implemented. Basing consists of not only the physical existence of runways worldwide, but also base infrastructure to service airlift aircraft and effective personnel to operate airlift operations at the base.

The availability of onload, offload, and enroute bases has become a major issue today as the U.S. military downsizes and shifts forces back from overseas locations. While there have been an adequate number of CONUS onload bases for recent contingencies, enroute bases have become a concern.

Overseas enroute bases, sometimes called stage bases, are becoming less available, causing an increasing reliance on aerial refueling. The availability of offload bases is determined by each contingency, while the availability of mobile equipment to allow these offload bases to function as efficient airlift ports is dependent upon certain specialized units in AMC. One of these units, called Tanker Airlift Control Elements (TALCEs), provide C4I, maintenance, supply, weather information, cargo and passenger handling, and other services for airlifters. TALCEs are designed to operate in the most remote environments and are critical in the airlift system.<sup>13</sup>

This second major aspect of basing, infrastructure, is crucial for the efficient operation of the strategic airlift system. In addition to the TALCE, infrastructure includes inter/intra-base communications to track and direct aircraft, and material handling equipment (MHE) to offload aircraft, especially KC-10s, KC-135s, and commercial aircraft

that cannot simply be unloaded by hand. Also, the availability of adequate maintenance, supply, and other support will be examined.

Another part of basing involves personnel. It is crucial to have well trained personnel to operate the onload, enroute, and offload bases. According to the RAND corporation, this is necessary to efficiently manage aircrews transiting bases, to be a single point of contact at that base for airlift, and to effectively work airlift problems.<sup>14</sup>

The following question matrix summarizes how this thesis will compare the basing aspects of the five strategic airlifts examined in this thesis:

Availability:

Were there adequate numbers of enroute bases and forward operating bases?

What effect did air-refueling have on maximizing throughput?

Was there any problem securing a stage base in theater or anywhere enroute?

Base infrastructure:

Were there any problems with communications between bases in the airlift system?

How effective were the TALCEs and GRLPs?

Was there adequate MHE, maintenance, supply, and other support at enroute and forward operating bases (FOBs)?

Were the deployed airlift personnel adequately trained?

Were command post and stage management personnel effective in directing the airlift flow?

### Summary

This thesis will compare the Somalia, Rwanda, Haiti, and Kuwait strategic airlifts with the Gulf War airlift using the factors of planning and basing as the basis of comparison. This will be an objective and subjective analysis, with a "yes" or "no" answer to each of the aforementioned questions being explained with facts, expert opinion, and analysis by this author.

By using this methodology, this thesis will answer the question "Have the inefficiencies in strategic airlift planning and enroute basing improved since Operation DESERT SHIELD?" Chapter four establishes the baseline for comparing the four remaining strategic airlifts.

## CHAPTER 4

### DESERT SHIELD

Never before in history has any nation airlifted as many tons over as many miles. At the height of our initial surge, more than 124 strategic airlifters were landing in the desert each day . . . that's one airplane landing every 11 minutes.<sup>1</sup>

General H. T. Johnson, Airlifter Quarterly

Although deployment of US forces in the operation was successful, it identified several weaknesses in US rapid deployment capabilities.<sup>2</sup>

U.S. Congress, Conduct of the Persian Gulf War

#### Introduction

On 2 August 1990, Iraq invaded Kuwait, and on 7 August the first of over ten thousand DESERT SHIELD strategic airlift missions began arriving in Southwest Asia. One of the first missions was a C-141 from McGuire AFB, New Jersey, carrying personnel and equipment of that base's Airlift Control Element (ALCE), a forerunner of the current TALCE.<sup>3</sup> Three hours after this ALCE arrived at Dhahran International Airport in Saudi Arabia, the first F-15Cs from the 1st Tactical Fighter Wing (TFW), Langley AFB, Virginia, began arriving after flying fourteen hours direct from their home base.

In the rush to get adequate air and land combat forces deployed to blunt a possible Iraqi attack through Kuwait into the Gulf states, the airlift quickly increased its tempo to an unprecedented level. In the first thirty days, MAC transported 72,000 tons of equipment and 91,694 personnel for several hundred combat aircraft, the 82nd Airborne

Division, elements of the 101st Airborne Division, Marine units, and support units.<sup>4</sup> By the sixth week of DESERT SHIELD, the airlift had already surpassed in ton-miles the fourteen month Berlin airlift, which up to that point was the biggest airlift in history.<sup>5</sup>

In the first three weeks MAC moved more than in the first three months of the Korean War, and by the end of week two, 30,000 troops were on the ground defending Saudi Arabia. Operation DESERT SHIELD also marked the first major strategic deployment of combat units by air, an unexpected first test of the feasibility of post-Cold War U.S. defense strategy.<sup>6</sup> Between 7 August 1990 and the start of DESERT STORM on 17 January 1991, the strategic airlift fleet of C-5s, C-141s, KC-10s, and CRAF aircraft had moved over 325,000 tons and over 400,000 troops from the CONUS to Southwest Asia an average distance of 7,500 miles.<sup>7</sup>

Although sealift eventually transported over ninety percent of the total tonnage during the Gulf War, only airlift combined the speed and flexibility needed to rapidly deploy tens of thousands of U.S. troops and their combat equipment.<sup>8</sup>

Overall the DESERT SHIELD strategic airlift was a success, but there were many problems, especially in planning and basing. These problems prevented the airlift system from operating up to expectations. As this chapter will show, these problems were serious, but because of the enormous amount of materiel that was airlifted and more importantly because of Iraq's decision not to invade Saudi Arabia, the impact of these problems was minimized.

#### Planning

The primary purpose of strategic airlift planning is to ensure that airlift is used efficiently in meeting requirements of an OPLAN. But, according to the exhaustive study The Gulf War Airpower Survey:

"The deployment and use of airlift, particularly in the early days, was anything but well executed."<sup>9</sup> In fact, DESERT SHIELD can easily be considered a model of how not to plan a strategic airlift because problems were so numerous.

The first major long-term planning problem that existed at the outset was that no final OPLAN nor a TPFDL existed.<sup>10</sup> They were both in the process of being revised according to the direction of the CINC, U.S. Central Command (USCENTCOM), General H. Norman Schwarzkopf. Shortly after he had taken command of USCENTCOM on 23 November 1988 he began a review of the threats in his theater.<sup>11</sup> The existing OPLAN, 1002, envisioned a Soviet advance into Iran and subsequent control of the Persian Gulf.<sup>12</sup> After this new threat assessment, a new OPLAN began to be developed for a much more likely scenario: an invasion of Saudi Arabia by Iraq. It takes eighteen to twenty-four months of detailed planning to complete an OPLAN, so it is not surprising that this new plan was still in draft form on 2 August 1990.

As a result of not having a complete OPLAN, the transportation requirements were developed on a daily, and sometimes hourly, basis as the crisis unfolded. This made it impossible to use the airlift system efficiently in the first few weeks.<sup>13</sup> When the MAC Crisis Action Team (CAT) at Scott AFB, Illinois, was activated on 5 August 1990, they had no choice but to review existing plans for Southwest Asia, even though none fit exactly.<sup>14</sup>

Compounding this problem of having no completed OPLAN was another crucial planning element-a TPFDL.<sup>15</sup> Without an approved transportation plan, of which the TPFDL was the major portion, deploying units used gross estimates of their requirements, and this caused tremendous difficulties in airlift efficiency.

Dr. John W. Leland, the current AMC historian, explained the ramifications of this problem:

The [MAC] Crisis Action Team quickly discovered that the requirements being submitted through the TPFDDLs by dozens of Army, Air Force, Navy, and Marine Corps organizations were unreliable indicators of a unit's true airlift needs. Onload locations were often wrongly stated, and the terms "outsize" and "oversize" cargo were frequently applied incorrectly. These circumstances caused the following types of inefficiencies: too much airlift was scheduled, not enough airlift was tasked, or the wrong type of airlift was planned.<sup>16</sup>

In addition to not having a completed OPLAN nor a well planned TPFDDL, another problem quickly became apparent. According to the RAND Corporation, no experienced transport planners were involved in the planning process until the deployment order was issued on 7 August 1990.<sup>17</sup> Expectations of lift capability were based on out-of-date OPLANs. As a result of USTRANSCOM and AMC planners being left out, airlift requirements were initially unrealistic. For example, early requests sent to MAC by CENTCOM were as much as three times larger than the capability MAC said it could provide.<sup>18</sup>

Compounding the problems with long-term planning of having no OPLAN, no TPFDDL, and no participation in predeployment planning by airlift experts, were unrealistic planning factors and overly optimistic assumptions. MAC planners initially used UTE rates, mission-capable rates, and payload planning factors that were unrealistic.<sup>19</sup> For example, UTE rates were a third to a half below planned levels; the percentage of C-5 aircraft available was only 67 percent and at times fell to as low as 50 percent, while the availability for the C-141 was 81 percent.<sup>20</sup> Average payloads were 12 to 40 percent below planning factors.

But to give MAC credit, the airlift users were also guilty of grossly inaccurate estimates. Forecasted lift requirements for the

first seven deploying units increased by 60 percent between 11 and 13 August 1990 because of poor initial forecasts by users.<sup>21</sup>

Planning assumptions were also overly optimistic. MAC had assumed that there would be adequate offload bases in Southwest Asia (SWA). The Gulf states did indeed have many airfields with long runways, but not to the extent that they collectively could handle one strategic airlifter landing every eleven minutes. Bottlenecks occurred, with these forward operating bases quickly becoming saturated.

Problems with long-term planning--having neither an OPLAN nor TPFDL, transportation planners not being allowed early participation in the planning process, and unrealistic planning factors and assumptions--greatly hindered MAC in efficient execution planning, especially in the first months of DESERT SHIELD.

As the Gulf War airlift flow began to be executed on 7 August 1990 the stream of aircraft quickly turned into a flood. Initially, aircraft arrived at CONUS onload bases such as Langley and Pope, but units there could not generate loads fast enough. When they finally did, airlift requirements quickly outstripped airlift capabilities.

The creation of the airlift flow began at USCENTCOM, where it was determined which combat organizations needed to move first. CENTCOM would pass airlift requirements to USTRANSCOM, which then passed it to the MAC CAT. The CAT then determined the number of military and commercial airlift missions required; the process ended with the development of a daily mission schedule.<sup>22</sup>

Serious problems developed immediately in implementing this schedule because of poor communications between TRANSCOM, MAC, and the deploying units. Since TRANSCOM had been created just four years earlier and was being tested during DESERT SHIELD, and because MAC



directed the strategic airlift flow, this thesis concentrates on command and control (C2) between AMC and the airlifted units.

Efficient, orderly, and timely execution planning was crippled for two main reasons: C2 within MAC was overwhelmed, and most deploying units, except the 82nd Airborne Division, Air Force units, and Marine expeditionary brigades, were not fully prepared for deployment.<sup>23</sup> MAC C2 was so poor that several studies characterized it as "essentially useless," causing the deployment to be "anything but well executed."<sup>24</sup> Because of the many C2 systems available to MAC, this thesis will look at the major systems.

The FLOGEN (Flow Generator) computer at MAC creates airlift schedules so that missions are deconflicted. The deployment reached such a pace that there was not enough time to set up, load, and schedule missions using FLOGEN.<sup>25</sup> Initially, MAC could project its strategic airlift schedule ahead to only twelve hours, but as problems were resolved over the first month, it could project three to five days.<sup>26</sup> Basically, FLOGEN proved unusable because it could not respond fast enough to rapidly changing requirements. Because of this, MAC and its Numbered Air Forces manually planned and tracked thousands of C-5, C-141, KC-10, and CRAF missions using yellow pads, pencils, grease boards, and personal computer spread sheets. A MAC DESERT SHIELD lessons learned working group reported in October 1990 that because of FLOGEN's failure, "people must still be trained to have basic understanding of manual systems, 'rainbow charts' grease boards, etc. and how they operate, to preserve capability to back-up manually."<sup>27</sup>

In addition, MAC C2 could not provide reports to analyze the airlift flow to determine if there were any bottlenecks in the system.<sup>28</sup> The largest of these systems was the Global Decision Support System (GDSS) which was supposed to have the capability of determining where

aircraft were on a real-time basis. But because the system was quickly overloaded and also because most units had no capability to enter information into this system, the GDSS served simply as an after-the-fact source of data.<sup>29</sup> Lieutenant General Vernon Kondra, the MAC Deputy Commander for Operations who directed the MAC CAT during most of the Gulf War, stated at an Airlift Association Convention speech in October 1991 that the GDSS was typically eighteen hours behind schedule.<sup>30</sup> There was no other system in MAC that could or did have the communications necessary to control the strategic airlift fleet.<sup>31</sup>

But MAC was not the only organization not ready to go to war in an orderly manner. Many deploying units did not have transportation feasibility studies and up-to-date data bases. This was especially true of the Army's VII Corps in Europe. When it was ordered deployed to the Gulf in November 1990, its lack of preparedness to deploy caused substantial delays.<sup>32</sup> In August and September 1990, many units wanted to rush off to the war immediately without carefully planning their loads. As General H. T. Johnson described it: "Initially, customer discipline was very shaky. Everybody wanted to move forward very, very quickly."<sup>33</sup> USCENTCOM finally forced its deploying units to prioritize cargoes to be airlifted.

Further exacerbating execution planning was the JOPES and its inability to update rapidly changing TPFDLs. This system creates the sequence for each unit to deploy by dividing that unit into a Time-Phased Force Deployment Data (TPFDD).<sup>34</sup> Each TPFDD contains data such as amount of cargo and personnel deploying, ports of embarkation and debarkation, type of lift required, and other information.<sup>35</sup>

According to the Congressional report on the Gulf War, JOPES suffered from three major problems. First, information for deployment was not loaded into the TPFDL. Second, USCENTCOM changed requirements

constantly, and JOPES could not react fast enough to these numerous and frequent changes. And third, there was a severe shortage of JOPES-trained operators at CENTCOM and deploying units.<sup>36</sup>

Because of there was no TPFDL, the first units deployed used gross estimates of lift requirements and reverted to using out-of-date data bases.<sup>37</sup> This quickly created a debacle as airlifters arrived at bases either needing much more lift, less lift, or in some cases no lift at all because units no longer existed! TPFDL entries contained so many errors that they became unreliable as a basis for determining airlift requirements.<sup>38</sup>

To correct this crippling problem, MAC established a "requirements augmentees cell" which telephoned deploying units to verify their TPFDL before airlift was scheduled.<sup>39</sup> By using the telephone as a substitute for JOPES, MAC greatly alleviated the problem of unreliable TPFDLs; however, this problem persisted throughout DESERT SHIELD.

Besides unreliable and nonexistent TPFDLs, MAC had to contend with CENTCOM changing lift priorities so quickly and so often that JOPES was overwhelmed. At times MAC was ordered to divert airborne missions to respond to new priorities; when these aircraft arrived at their new destinations, loads were often not ready and many times users were not even notified of their arrival.<sup>40</sup> Between 13 and 16 August 1990, the 82nd Airborne Division priority dropped from first to thirtieth, and one day CENTCOM changed its airlift priorities seven times.<sup>41</sup> During the first three days of September, the 101st cancelled twenty-eight C-5 and twenty-five C-141 missions.<sup>42</sup> According to the MAC CAT's senior director, "More than anything else, changing requirements were our greatest difficulty."<sup>43</sup>

It is important here to note that frequently changing airlift requirements will often occur again in future contingencies, even with pre-planned TPFDLs. Lieutenant General Kondra has said that, "It [changing requirements] absolutely will not go away."<sup>44</sup> However, automated systems such as JOPES must be able to cope with these changes in order to run an efficient strategic airlift. During DESERT SHIELD it could not cope.

The third serious problem with JOPES was a critical shortage of trained operators. CENTCOM JOPES experts forward deployed early in the Gulf War, leaving no expertise to make JOPES work in the CONUS.<sup>45</sup> MAC deployed people to fix JOPES, but these were not enough to meet the demand. This shortage of JOPES personnel caused delays in deployment, caused data to be inaccurate by tens of percents, and allowed unauthorized changes to JOPES to be made.<sup>46</sup>

These problems which hobbled JOPES in DESERT SHIELD caused ITV to be poor. The Assistant Deputy Undersecretary of Defense for Logistics (Transportation Policy), Ms. Mary Lou McHugh, defines ITV as, "The ability to track the identity, status, and location of DOD unit and non-unit cargo and passengers, medical patients and personal property from origin to destination during peace, contingencies, and war."<sup>47</sup> Excessive use of classification of loads, incorrectly marked pallets, and no common joint data base of cargo resulted in two football fields full of undeliverable cargo at one location in Southwest Asia.<sup>48</sup> HQ MAC stated in October 1990 that, "Both user and operator must find ways to provide more immediate load visibility."<sup>49</sup>

To a large degree, the effectiveness of long-term planning and execution planning can be measured in closure time. CENTCOM did not get all the forces it requested in theater by its deadline of 15 January 1991.<sup>50</sup> In fact, final offload mission reliability rates were very poor

throughout DESERT SHIELD and STORM, with C-5s averaging twenty-five percent, C-141s thirty-five percent, and CRAF forty-one percent.<sup>51</sup>

### Basing

Problems with the availability of bases and the infrastructure of those bases severely hampered the efficiency of the DESERT SHIELD strategic airlift, further compounding problems with deliberate and execution planning.

The enroute and FOBs in this operation spanned the globe, but most were located in Europe and Southwest Asia. A typical C-5 or C-141 mission would depart Westover AFB, Massachusetts (C-5) or McGuire AFB, New Jersey (C-141), fly to a CONUS onload location and then to Europe. From there, the aircraft would get a new crew, a full load of fuel and any maintenance it required, and then depart "downrange" (SWA, Turkey, Egypt, or Israel). After unloading its cargo in theater, it would refuel and fly back to Europe, where another crew would fly it back to the U.S. to repeat the process.

Thus, the Gulf War airlift was three huge circles, ten thousand miles long, with scores of aircraft and hundreds of aircrews airborne continuously for nine months (five and one half months for DESERT SHIELD alone). Although this system of bases worked, problems plagued them from the beginning.

First, there was an insufficient number of bases supporting the airlift. The European stage bases became quickly overwhelmed with billeting, food service, fuel, other requirements, and simply ran out of ramp space to park aircraft.<sup>52</sup> From August 1990 through January 1991, eighty-four percent of MAC's C-5 and C-141 missions transited just four European bases: Torrejon and Zaragoza in Spain, and Rhein-Main and Ramstein in Germany.<sup>53</sup> Ramp congestion became so serious at times that

airlifters had to be towed into and out of parking. At Torrejon, two hundred aircrew members were billeted in one aircraft hangar, and the Officer's Club raised prices to profit from this influx. CINCMAC himself personally intervened to get better support for aircrews.<sup>54</sup>

FOBs were worse. Even though Southwest Asia had excellent airports, there were too few, and many needed infrastructure improvements such as large fuel supplies and hydrants. Dhahran handled fifty-nine percent of all strategic airlift missions, while Riyadh handled eight percent, Jubail eight percent, and various other airfields the rest.<sup>55</sup> Luckily, excellent host nation support alleviated some of these problems, and the introduction of "slot" times for aircraft to depart Europe to better regulate the airflow, eased the burden of overcrowding at these bases downrange.

Lieutenant General Kondra described the impact of too few enroute and FOBs:

We had a four foot opening trying to push airlift through that 7,000 mile long hose and come out a 4" nozzle at the other end. It doesn't work very well. You've got to have the offload bases to handle what you're putting into that flow.<sup>56</sup>

An efficient strategic airlift depends on a well run enroute system, and with one hundred onloads at thirty to thirty-five locations per day destined for only four locations downrange, the system clogged quickly.<sup>57</sup> It took seven weeks to get more bases in the Area of Responsibility (AOR), while it took users until the end of November 1990 to begin using locations other than Dhahran. General Kondra pointed out the importance of bases in theater when he stated that, "When we really started becoming efficient was when we worked the requirements backwards."<sup>58</sup>

Aerial refueling had a minor impact upon alleviating the problem with shortages of bases for two reasons. One, most tankers were dedicated to getting fighter aircraft into the theater, many of which flew directly from the CONUS. Two, less than fifty percent of MAC pilots were air-refueling qualified, and because of problems with C2 systems it became difficult to track those pilots who were qualified.

Another major problem was the lack of a stage base in Southwest Asia where MAC aircrews could crew rest. This would have allowed MAC to use only two pilots per mission instead of three. Without this stage base in theater, three pilots had to fly missions from Europe into the AOR and back to Europe within a twenty-four hour period. MAC tried for twenty-nine days to get Jeddah as a stage base, but was always denied it by CENTCOM.<sup>59</sup> Because of the finite number of aircrews available - including mobilized reservists - this lack of a stage base resulted in a twenty to twenty-five percent reduction in strategic airlift capability.<sup>60</sup>

Base infrastructure was another problem. Perhaps the most serious infrastructure shortfall was the lack of adequate communications between enroute and FOBs. Inadequate communications made it difficult to transmit information about changing schedules. Many times bases would be notified of inbound missions not hours before, but rather when those aircraft made their required radio call thirty minutes prior to landing. This made servicing the aircraft within preset time limits often impossible.

There was also a shortage of MAC-assigned High Frequency (HF) radio channels. Aircrews used the HF to call three or more hours ahead to their destinations to coordinate for a smooth ground time, but often could not because five other aircraft were waiting to use the same frequency.<sup>61</sup> This precluded effective stage crew management and ALCE

knowledge of inbound loads which contributed to low reliability enroute.<sup>62</sup> The average C-5 enroute station reliability rate was fifty-three percent, while that of the C-141 was sixty-four percent.<sup>63</sup>

There was also a shortage of secure telephones called "STU-IIIs" used for classified information, and computerized flight plans which told pilots the specified air routes to fly were often not available. When these flight plans were transmitted, ALCEs sometimes did not have the equipment to receive them, and when they did, these flight plans often were not accurate. In one case a crew received a flight plan directing overflight of Iraqi territory!<sup>64</sup>

The complete list of inter-base communications problems during the DESERT SHIELD airlift cannot be included in this thesis. Therefore, to summarize these problems, MAC/XPY stated in October 1990 that "Automated systems were simply not up to the task . . . nor was adequate communication capability available enroute and in theater to conduct MAC operations efficiently."<sup>65</sup>

ALCEs were deployed immediately upon receipt of the alert order on 7 August 1990 and the ALCE from McGuire AFB arrived at Dhahran the following day. ALCEs were deployed to Riyadh, Cairo, King Fahd, Oman, and other locations. The ALCE at Dhahran was clearly the most task saturated, handling fifty-nine percent of all strategic airlift in the AOR.<sup>66</sup> All these units did the best they could, and many times more, to resolve seemingly insurmountable problems with C2 and base infrastructure shortfalls.

One problem ALCE personnel had to contend with throughout the Gulf War was insufficient and unreliable MHE. These vehicles were 1960s technology that suffered repeated breakdowns because of the harsh desert climate. Although the specific reduction in airlift due to MHE problems was never calculated by MAC, a RAND study did conclude that, "MHE



problems did slow down the airlift flow by restricting the maximum number of aircraft that could be handled at a base at a given time."<sup>67</sup> MHE problems also caused backlogs of pallets at APOEs and APODs. At McGuire AFB, over one thousand pallets quickly piled up by late August 1990, while at Dhahran, thirteen hundred pallets accumulated because there was not enough MHE to move the palletized cargo to trucks for shipment to receiving units.<sup>68</sup> By late September, five of ten "25K" loaders, a common type of MHE, were broken at Dhahran.<sup>69</sup>

Besides spare parts for MHE, the only other serious supply problem was the shortage of pallets, although this did not impact airlift operations. At one point, only 35,000 pallets out of 140,000 could be accounted for. One reason pallets began to disappear was because it was easier at APODs to simply push the cargo forward while still strapped to its pallet. Units also began using them for tent flooring. But MAC solved this problem with the help of CENTCOM and by using pallets in storage.<sup>70</sup>

By October 1990 complaints arose about MAC's inability to deliver critical spare parts to Southwest Asia. On 31 October MAC started the Desert Express which ensured next-day delivery of spares, and two additional daily flights were added by war's end, including a European Express. All services used these flights, and the high reliability of weapons systems in the Gulf proved how MAC successfully solved this early problem of supply shortages.<sup>71</sup>

Even the best base infrastructure cannot compensate for poorly trained and poorly led airlift personnel to manage the enroute airlift system. While a vast majority of deployed MAC personnel did an exceptional job, enough did not perform to standards to raise concerns. RAND reported that "personnel at command posts at Rhein Main and Torrejon, for instance, lacked the necessary experience," and that "MAC

needs to provide manuals and training to command post personnel."<sup>72</sup> But to MAC's credit, the unprecedented airlift caused it to augment its command post personnel, many of whom were untrained in aircrew stage management, and by September 1990 the airlift was flowing more smoothly.

There were two issues involving deployed airlift personnel that were not MAC's fault. One was the lack of a single point of contact for information about airlift issues. In some cases MAC people had to call a dozen individuals to get information about outbound cargo.<sup>73</sup> Units simply did not organize a single office to coordinate their mobility operations, and when MAC organizations such as the MAC CAT tried to verify outbound loads, they had great difficulty.

But perhaps the poorest example of enroute support of deployed MAC people occurred in Spain and Saudi Arabia. At Torrejon, the Spanish commander moved his forces before the U.S. commander moved his, MAC aircrews were treated more as "profit potential than as Air Force members," and they were billeted three-to-a-room while crews from other commands got single rooms.<sup>74</sup> Only intervention by General Johnson solved this inexcusable situation. At Dhahran, the 1st TFW prohibited the ALCE personnel from eating in their dining hall and forced them to find quarters with the 82nd Airborne Division. General Johnson didn't hear about this segregation problem until it was too late, and he later described this situation: "We were treated worse than any foreign country would treat us."<sup>75</sup>

#### Summary

The DESERT SHIELD strategic airlift was a success despite serious shortcomings in planning and basing. MAC airlifted the equivalent of the entire state of Wyoming with their personal belongings over eight thousand miles and back in nine months. No other nation

could have moved a fraction of this enormous effort. General Schwarzkopf summarized this:

Operation DESERT SHIELD was the fastest build up and movement of combat power across greater distances in less time than at any other time in history. It was an absolutely gigantic accomplishment, and I can't give credit enough to the logisticians and transporters who were able to pull this off.<sup>76</sup>

However, all studies of this airlift recommended that deficiencies be corrected, not only because they posed major problems in limiting the throughput, but also because of new challenges created by U.S. post-Cold War defense strategy. Specifically, if strategic airlift is to fulfill its role in a rapid projection, CONUS-based military of the 1990s and beyond, the lessons of DESERT SHIELD must be learned quickly. As the Gulf War Air Power Survey stated:

Why, however, did they [airlift problems] not impact the outcome? The answer is: a superb resource base plus five and one-half months to prepare. Now the resource base that made the difference is being reduced; future wars may or may not be preceded by nearly six months in which to prepare. The potential outcome with a different mix of resources and time deserve consideration.<sup>77</sup>

The next four chapters of this thesis will determine if these many lessons were indeed learned.

## CHAPTER 5

### RESTORE HOPE

In its most hectic phase, RESTORE HOPE succeeded because AMC was willing and able to make a series of adjustments after the initial push had established a plan and created an enroute structure for the operation.<sup>1</sup>

Kent Beck and Robert Brunkow, Global Reach in Action: The Air Mobility Command and the Deployment to Somalia

The most significant deployment lesson learned during Operation RESTORE HOPE was the importance of maximizing both use and reliability of critical strategic lift assets.<sup>2</sup>

Center For Army Lessons Learned, Operation RESTORE HOPE

#### Introduction

Operation RESTORE HOPE was the humanitarian and peacemaking operation conducted in Somalia by the U.S.-led coalition from 9 December 1992 through 4 May 1993.<sup>3</sup> It was the first test of the new post-Cold War U.S. defense strategy of rapidly deploying long distances directly from the CONUS.

RESTORE HOPE was also significant in that it was the first large scale test of AMC and of the TACC. AMC was activated on 1 June 1992 from the remains of the MAC and most of the aerial refueling tankers from the Strategic Air Command (SAC). Air Mobility taskings flow directly from the TACC to units worldwide.

General Ronald R. Fogleman described Somalia as "the first time our air mobility forces [airlifters and tankers] have been engaged in a major exercise in their post-Cold War configuration."<sup>4</sup> On 4 December

1992 President Bush ordered American forces to Somalia to establish an environment for humanitarian operations to be conducted, and on 9 December the first of 1,158 strategic airlift missions arrived.<sup>5</sup> Eighty-five percent of these missions occurred in the first sixty days of the operation, demonstrating the importance airlift plays in the beginning stages of a deployment of this size. RESTORE HOPE transported 24,000 passengers and over twenty thousand tons of cargo to Somalia in its first six weeks.<sup>6</sup> Overall, it carried about 5 percent of the cargo transported during the Gulf War.<sup>7</sup>

The airlift went smoothly and quickly, but many participants complained about difficulties in planning, coordinating, and managing the operation.<sup>8</sup> These problems, combined with obstacles in base availability and an extremely austere infrastructure in Somalia tested AMC's ability at learning from its mistakes during DESERT SHIELD. RESTORE HOPE was a success because it stopped the starvation in Somalia, but closer analysis reveals serious issues with the strategic airlift.

#### Planning

As in Operation DESERT SHIELD, an OPLAN did not exist for RESTORE HOPE, but while USCENTCOM had five days to conduct pre-deployment planning for the Gulf War, they began planning two and a half weeks before 9 December 1992 which became D-day.<sup>9</sup> By D-day, these plans had been well developed, although Army support forces had not been completely identified.

During this planning period, General Fogleman and several members of his staff visited Somalia on 26 November 1992 to assess the infrastructure. Upon his return to CONUS, he briefed General Hoar, Commander in Chief of U.S. Central Command, and General Powell, Chairman, Joint Chiefs of Staff.<sup>10</sup> General Fogleman also directed the

TACC to "lean forward" by initiating planning for a "possible large scale airlift to Somalia."<sup>11</sup>

As in DESERT SHIELD, there was no preexisting TPFDL for Somalia. According to a RAND analysis of RESTORE HOPE, "Many participants complained that the TPFDL was constantly changing and that, without a reliable plan, lift was wasted."<sup>12</sup>

But unlike the Gulf War, transportation planners were involved at the very beginning of the planning process. This helped mitigate the need to create an OPLAN and supporting TPFDL from scratch. When Brigadier General Thomas R. Mikolajcik was named Director of Mobility Forces (DIRMOBFOR) for RESTORE HOPE, he began working closely with Lieutenant General Robert B. Johnston, the Commander of Joint Task Force (JTF) Somalia. Because of the remote location of Somalia in the Horn of Africa and the inherent difficulties of getting there, AMC assumed a dominant position in the initial planning, a drastic change from two and one half years earlier.<sup>13</sup> USTRANSCOM's initial guidance to AMC was to create a concept of operations (CONOPS) that required thirty-two days of intensive airlift, at which time sealift would assume the bulk of supply and sustainment. CINCCENTCOM agreed to this at the beginning of planning.

This close planning coordination between USTRANSCOM, AMC, and USCENCOM allowed General Mikolajcik to work several important air mobility issues simultaneously. These included securing basing rights for aircraft, moving AMC personnel into the enroute system to prepare for the airlift surge, and refining the CONOPS.<sup>14</sup>

However, despite this early involvement by airlift experts in the planning for RESTORE HOPE, shortcomings were aired at a "hot wash" conference at Scott AFB on 8 February 1993. Airlift participants said that the CONOPS could have been "more timely and more comprehensive."<sup>15</sup>

The TACC was task saturated because it developed and executed the RESTORE HOPE plan, diverting it from its primary mission of execution planning.<sup>16</sup> But perhaps the most significant recommendation this hot wash suggested was the need to create a range of plans to consult in a crisis, initially "fill in the blank" plans and ultimately regional plans.<sup>17</sup>

Planning factors were still a problem during Somalia. During January 1993, Army strength in the theater tripled to slightly more than ten thousand troops, far fewer than the 13,400 soldiers planners had predicted in early December.<sup>18</sup> Sustainment airlift throughput was also below expectations. Airlift deliveries in the first six weeks were less than thirty percent of the estimated eighty-five thousand tons planned for.<sup>19</sup>

While Operation RESTORE HOPE demonstrated that AMC and USTRANSCOM had learned some lessons from DESERT SHIELD, they were not as fortunate with execution planning. The GDSS was not fully operational in Somalia and throughout the enroute system until its portable terminals were deployed on 16 December 1992.<sup>20</sup> At a USTRANSCOM "Significant Lessons Learned" briefing about RESTORE HOPE on 25 April 1994, it was concluded that the global command and control system needed to be fixed.<sup>21</sup> In early December a "major crash" in WWMCCS hampered C2 of deployment operations.<sup>22</sup> Also, lack of reliable communications between the deployed JTF in Mogadishu, Somalia and CONUS organizations hindered efficient execution planning.<sup>23</sup> However, because of the much smaller magnitude of this airlift compared to DESERT SHIELD, the AMC C2 system was not overwhelmed and chaotic as it was during the Gulf War, although problems remained.

A unique aspect of the Somalia airlift which represented increased international cooperation in the post-Cold War era was AMC's

role in airlifting troops and equipment from eight coalition partners. These countries included France, Botswana, Canada, Belgium, Sweden, Tunisia, Zimbabwe, Nigeria, and Pakistan.<sup>24</sup> This multi-national aspect complicated execution planning for many of the same reasons American forces had--the need to acquire diplomatic clearances, airspace clearances, aircraft availability, and airport capabilities. A RAND study concluded that "the process also needs tools to enable deployment planning and execution to allow for coalition forces' transportation needs."<sup>25</sup>

RESTORE HOPE was the second major test of the TACC, the first being the disaster response to Hurricane Andrew. The TACC concept appeared to have worked well, improving the coordination and execution of the airlift. With the TACC as the only manager of strategic airlift, "AMC has been able to closely track requirements, airfield capacities, and resource availability."<sup>26</sup> During the first eighteen days of RESTORE HOPE, AMC filled 91 percent of Somali airfield cargo capacity and nearly 80 percent of its passenger capacity.<sup>27</sup>

What slight improvements there were between AMC, USTRANSCOM, and deploying units during RESTORE HOPE were overshadowed by serious problems with JOPES and its ability to process rapidly changing TPFDLs. A RESTORE HOPE lessons learned report from CALL concluded:

Major Commands deployed in support of Operation RESTORE HOPE displayed a lack of understanding of the movement control functions involved in JOPES. Due to force structure changes during deployment, numerous TPFDD changes were required by supporting commands. Units did not understand who was responsible for TPFDD refinement, how it was done, and what "validated" meant.<sup>28</sup>

As in DESERT SHIELD, there were not enough JOPES-trained operators. The 10th Mountain Division was the major U.S. Army unit deployed, but it was neither staffed nor equipped to put TPFDL information into JOPES.<sup>29</sup> Data for the division was entered at the



XVIII Airborne Corps, and as a result there was confusion, delays, and duplication of work. The result was a repeat of problems during the Gulf War: airlift was sent to carry cargo that never appeared, the wrong amount of airlift was sent, and airlift was simply wasted.<sup>30</sup> The CALL study on RESTORE HOPE recommended that "USTRANSCOM should continue to refine JOPES, improve flexibility, and make it user friendly."<sup>31</sup>

Because many of the deployment requirements originated from JTF RESTORE HOPE based in Mogadishu, and because communications with the JTF was initially poor, problems with JOPES were worsened. Other problems compounded deployment execution: the Army's inability to prioritize airlift requirements, inaccurate TPFDLs and lack of discipline using JOPES.<sup>32</sup> The issue here is not how to prevent TPFDLs from changing, but how to input those changes efficiently into the system. The nature of contingency execution will always require JOPES and other C2 systems to react quickly. During RESTORE HOPE it failed this test once again.

Lieutenant General James D. Starling, USA, the Deputy CINC of USTRANSCOM from June 1991 to August 1993, summarized these problems with JOPES and TPFDL when he said, "One of the things we have failed to do though is come up with a replacement for JOPES. This is still, in my view, an albatross around our neck."<sup>33</sup> But he also admitted that: "The Army itself has recognized that they did not do a terrific job in getting themselves ready to go to Somalia," and that "we [USTRANSCOM] could have done a better job educating the Army on how to put its force list together and prepare to deploy."<sup>34</sup>

As a result of DESERT SHIELD and RESTORE HOPE, USTRANSCOM began conducting TPFDD planning conferences to straighten out CINCs' plans and to make sure that they were feasible from a transportation perspective.

Ineffective use of JOPES and all the problems with the TPFDD process from creation to execution also caused problems with ITV. As a

CALL study stated, "Failure to follow established JOPES procedures results in loss of control of passenger and cargo movement, poor use of strategic lift assets and poor in-transit visibility to the supported CINC."<sup>35</sup>

A 1993 article in Defense Transportation Journal entitled "Air Transportation In-Transit Visibility" criticized the DOD in general and MAC/AMC and USTRANSCOM in particular for the DESERT SHIELD ITV problems. It stated that even after RESTORE HOPE there was no single DOD organization that could provide complete ITV from start to finish even though the technology existed.<sup>36</sup> The problem, the author convincingly argues, is that the "philosophy, policy, and planning" are lacking for joint service use of ITV information.<sup>37</sup> The author recommends that USTRANSCOM take the lead in this issue, which it has with the development of GTN. This is a software-intensive system that will bring together "accurate, timely transportation data from AMC, Military Traffic Management Command (MTMC), and Military Sealift Command (MSC) computer systems into a single integrated view of the Defense Transportation system."<sup>38</sup>

The inevitable result of slight improvements in deliberate planning being crippled by continued problems with JOPES and TPFDLs was a poor closure rate during RESTORE HOPE. Only forty percent of strategic airlift missions closed on time, but ironically the commander of combined JTF-Somalia was pleased.<sup>39</sup> This apparent paradox created concern in AMC for better measures of airlift performance, and a USTRANSCOM "lessons learned" briefing in early 1993 echoed this concern.<sup>40</sup>

### Basing

Most of the strategic airlift missions originated in the CONUS, transited European bases, and flew into one primary airfield in Somalia-Mogadishu. The air distance was slightly longer than the Gulf War, and Somalia was more logistically challenging because of the extremely austere infrastructure that could be characterized as "bare, bare base."

The air distance is 8,044 miles from the East Coast and 10,400 miles from the West Coast. A typical mission involved a C-141, C-5, KC-10, or CRAF aircraft picking up a load in CONUS, flying it to a European base or air-refueling enroute and stopping in Cairo West, Egypt, where another crew would fly to Somalia and back to Cairo. Tankers were based in Lajes AB, Azores and Moron AB, Spain.<sup>41</sup>

For the size of this contingency, there were adequate enroute bases for RESTORE HOPE. The securing of transit rights in the Azores, Spain, Egypt, Saudi Arabia, Portugal, and Ethiopia proved crucial and allowed the enroute system to work well. However, the forward operating bases posed the biggest basing challenge.

Mogadishu handled over 90 percent of all strategic airlift missions, with Baledogle and Kismayu handling the rest.<sup>42</sup> The maximum on the ground (MOG), which is the greatest number of aircraft that can be serviced simultaneously, became the major constraint on throughput at Mogadishu, but to AMC's credit they had learned valuable lessons from DESERT SHIELD. First, they established a strict flight schedule with precise "slot" times for aircraft to depart for Somalia. Second, by 3 January 1993 controllers at Mogadishu began approving departures from Cairo West and Taif, Saudi Arabia based upon ramp space availability. And three, lighting and navigation aids were brought in to allow twenty-four hour operations at Mogadishu and Cairo West.<sup>43</sup>

Aerial refueling was used twice as much for strategic airlift as during DESERT SHIELD and accelerated the airflow from CONUS to Cairo. AMC integrated twelve tankers based at Lajes and twelve at Moron to refuel 1056 strategic airlift missions from December 1992 through February 1993. This represented the first time that tankers refueled airlift aircraft in a major operation across the Atlantic Ocean. Airlifters would either fly direct to Cairo, Egypt, or in some cases fly directly from the CONUS to Mogadishu, Somalia, all made possible by aerial refueling. By minimizing enroute stops, aircraft required less maintenance, could carry more cargo and arrived faster, all of which helped maximize throughput, at least initially.<sup>44</sup> This aerial refueling also reduced reliance on enroute bases.

A study of the RESTORE HOPE air-refueling operation by the HQ AMC Command Analysis Group concluded that air-refueling allows the first load to arrive two to five hours earlier than aircraft using an enroute stop, but that throughput is ultimately governed by MOG at the destination and air-refueling is less cost-effective than airlanding.<sup>45</sup> It also stated:

Aerial refueling is effective and necessary if the time of arrival of the first several loads is critical, if the number of airlift airframes available is limited, or if no en route infrastructure is available. An en route stop concept is more effective if scenario durations are lengthy, if some mobility en route infrastructure exists, and if the total cost per ton delivered is to be minimized.<sup>46</sup>

The use of Cairo West, Jeddah New, and Taif as stage bases proved invaluable during RESTORE HOPE because of the lack of fuel in Somalia. Aircraft would depart these bases with near-maximum fuel loads and fly round trip without refueling in Somalia. C-141s used Cairo West while C-5s and KC-10s were based in Jeddah New and Taif.<sup>47</sup> Limited infrastructure and security concerns prevented aircrews from staging in Somalia, but these stage bases within the AOR proved to be very

effective and allowed efficient use of strategic airlift, unlike DESERT SHIELD in which stage bases were limited to Europe.

While the availability of bases was adequate enroute but very limited in Somalia, base infrastructure limitations posed additional challenges. Communications with these bases were inadequate during the first weeks of RESTORE HOPE.<sup>48</sup> Personnel in Somalia got little or no warning of units aboard arriving aircraft, and the JTF had difficulty initially getting airlift movement reports. Communication was also limited to the Defense Switching Network (DSN) until 1 January 1993 when WWMCCS became available.<sup>49</sup>

The ALCEs had been renamed the TALCEs to symbolize the inclusion of KC-135 and KC-10 tankers into AMC. These units were deployed between 2 and 7 December 1992 to Cairo West, Mogadishu, Griffiss AFB, March AFB, Kenya, and to other locations.<sup>50</sup> Because there was absolutely no usable infrastructure in Somalia except three runways, virtually all infrastructure had to be brought in. Although there were problems with communications, TALCE personnel did a good job. However, the need for a new concept called a GRLP became apparent. This involves deployment force modules that can operate any type of airmobility bare base and can be loaded into a CINC's TPFDL in minutes.<sup>51</sup> General Fogleman summarized the need for this improvement when he said, "we're taking a new look at our en route structure and our contingency laydown forces, because in the future we will have to do business in a different way."<sup>52</sup>

The TALCEs worked well, as concluded by CALL: "The principle of early deployment of required logistical and terminal control elements was successfully applied by the U.S. Air Force."<sup>53</sup>

While RESTORE HOPE was much smaller than the Gulf War airlift, it was more logistically challenging because all support had to be brought in.<sup>54</sup> Fuel was the most limiting factor, but as already

explained, AMC did an excellent job at solving this problem. Lack of airfield lighting and navigational aids at Cairo West and Mogadishu prevented night landings during the first week of RESTORE HOPE.<sup>55</sup> In addition, MHE, maintenance, and supply enroute were never overloaded because airlift planners worked backwards from the MOG constraints in Somalia to schedule airlift.<sup>56</sup>

There were also few problems with deployed airlift personnel managing the airflow. Despite problems with communications, stage managers kept the aircrews on a tight schedule, especially on the route between Egypt and Somalia. But in the AMC hot wash, it was concluded that additional training for stage managers was important.<sup>57</sup> By early 1993 that training was already in progress.

#### Summary

The Operation RESTORE HOPE strategic airlift was a success, despite many recurring problems from DESERT SHIELD in planning and basing. Although much smaller than the Gulf War airlift, RESTORE HOPE was more logistically challenging and represented the first test of AMC, the TACC, and USTRANSCOM in the post-Cold War era.

As in DESERT SHIELD, there was no OPLAN nor TPFDL, and unrealistic planning factors were used, all causing the strategic airlift system to fall short on initial expectations. However, airlifters were involved immediately in predeployment planning, which allowed a smoother start to the airlift, a welcome change from DESERT SHIELD.

Execution planning was almost a complete replay of DESERT SHIELD. Although communication networks between AMC and its customers were not overwhelmed, GDSS still did not perform as expected. ITV was still very poor, with units in Somalia not knowing what was on board

inbound aircraft. But perhaps the biggest short coming was with JOPES and TPFDLs. JOPES was proven to be "non-responsive" to crisis planning, with operators insufficient in number and untrained to update rapidly changing TPFDLs.<sup>58</sup> TPFDLs were also inaccurate, and deploying units were not prepared for movement.

Basing fared much better, despite challenges greater than DESERT SHIELD. AMC rapidly acquired an adequate number of enroute, stage, and forward operating bases, introduced large scale aerial refueling, and secured multiple sources of aviation fuel in the AOR. Although inter-base communications proved troublesome initially, well-trained TALCE personnel handled this well. The need for tailored TALCE units to set up at bare bases was identified with the creation of the GRPL. No significant problems with MHE, maintenance, or supply (except fuel) occurred, but the need for continued training of stage managers was demonstrated.

Overall, there were strong efforts made by AMC and USTRANSCOM to improve inefficiencies in planning and basing, but many unresolved problems dating from DESERT SHIELD occurred again. This is especially troubling for three reasons. One, AMC had two and one-half years to implement lessons learned from the Gulf War. Two, RESTORE HOPE airlifted only 5 percent of the total tonnage of DESERT SHIELD, and three, RESTORE HOPE was not a response to a direct threat to U.S. national security. It was simply a peacemaking and humanitarian operation to one of the poorest nations on Earth.

CHAPTER 6  
SUPPORT HOPE

Success will be measured in how many lives are saved today, tomorrow and the next day. We must move rapidly to do so.<sup>1</sup>

General George Joulwan, CINC USEUCOM

The global reach capability of AMC made the movements and our rapid response to the crisis possible.<sup>2</sup>

Lieutenant Colonel David Philips, USTRANSCOM

Introduction

From 22 July 1994 to 30 September 1994, AMC flew twelve hundred strategic airlift missions for Operation SUPPORT HOPE. These missions carried twelve thousand passengers and twenty-five thousand tons of cargo. This was a humanitarian assistance operation to relieve the suffering of over two million Rwandan refugees fleeing from civil war. Although a small airlift compared to RESTORE HOPE or DESERT SHIELD, it still delivered more tonnage than AMC had delivered to South Florida during the Hurricane Andrew disaster relief operation, even though Rwanda was 8,500 miles further away.<sup>3</sup>

President Clinton assigned the Rwandan relief mission to U.S. European Command (USEUCOM or EUCOM). The mission objectives included establishing an airlift hub, airport services, logistics base support and water supply and distribution. The role of the JTF which would actually implement this mission for EUCOM was to rapidly reinforce overwhelmed relief agencies until these organizations could assume effective operations.<sup>4</sup>



The DOD, JTF, AMC, and USTRANSCOM worked together to coordinate the movement of relief supplies from CONUS, Europe, and the Middle East into the very austere environment of Central Africa. These supplies included food, water purification equipment, medicine, tents, and other supplies. The success of SUPPORT HOPE quickly became evident early in the crisis as the death rate in refugee camps fell from five thousand per day to less than 250.<sup>5</sup> Secretary of Defense William Perry said in August 1994 that "U.S. troops were making a crucial difference in the effort to stop the death and disease," and that "Unquestionably, we have saved thousands of lives."<sup>6</sup>

#### Planning

SUPPORT HOPE had neither an OPLAN nor a transportation-feasible TPFDL.<sup>7</sup> This lack of preparedness may have caused the Clinton Administration to receive severe criticism for not moving fast enough. On 23 July 1994 General George Joulwan, CINC USEUCOM, replied to this criticism by stating that "such a massive undertaking requires prudent planning" and that "Our goal is to save lives and we are trying to do this in as disciplined a way as we can."<sup>8</sup> While the strategic airlift was being hastily planned, three C-130s airdropped seventeen tons of food to Rwandan refugees, causing one UN official to remark that it was too little and off target.<sup>9</sup>

As during the Gulf War and in Somalia, OPLANs and supporting TPFDLs were not written because the unified command responsible for those regions had not done so. It is important to note that USTRANSCOM and AMC are usually supporting commands in a contingency. Therefore, if the supported command such as USCENTCOM or EUCOM does not have an OPLAN, strategic airlift planning is held hostage. Such was the case once again during RESTORE HOPE.

This hasty planning or "NOPLAN" situation at EUCOM in July 1994 is troublesome for two reasons. One, the Rwandan situation did not occur suddenly overnight, but was simmering since April 1994 when civil war broke out between Hutus and Tutsi. C-5s and C-141s had been evacuating embassy personnel from Kigali, the Rwandan capital, since 10 April 1994.<sup>10</sup> In fact, by 11 May 1994 AMC had directed over ninety-two flights with over two thousand tons of relief supplies.<sup>11</sup> The second reason is that Lieutenant General Starling, formerly Deputy Commander in Chief USTRANSCOM, said in an interview in September 1993 that it was possible to have an OPLAN and TPFDD for all hot spots, and that this would be an on-going process.<sup>12</sup>

But despite this lack of prior planning by EUCOM, the TACC designed a well thought-out CONOPS that maximized throughput into the AOR despite significant infrastructure problems.<sup>13</sup> EUCOM eventually developed the TPFDD just three days prior to execution, and this process was described as being accomplished "on the fly."<sup>14</sup>

As in DESERT SHIELD, airlift planners were not involved in the early planning process, causing "significant turbulence" in the deployment airflow.<sup>15</sup> One knowledgeable participant in the SUPPORT HOPE contingency planning described how calls between non-AMC general officers created the initial airlift plan. This resulted in EUCOM requesting ten C-141s and five C-5s to be based at Rhein Main Air Base in Germany for EUCOM's use without any estimates provided by AMC!<sup>16</sup> Also, a CALL after-action report stated that "EUCOM senior staff lacked sufficient airlift experience to effectively use limited airlift assets during SUPPORT HOPE."<sup>17</sup> To correct this problem in the future, the CALL study recommended that "an orientation 'road show' be developed to

educate senior decision makers and their staffs on the best use of mobility assets within their AOR."<sup>18</sup>

Planning factors were apparently realistic as estimated by the qualified airlift planners in AMC, but often during this operation general officers in Europe would say that estimates were "not good enough."<sup>19</sup>

Poor long-term planning hindered execution planning, a situation that was a repeat from DESERT SHIELD and RESTORE HOPE. The first problem was poor communications between the JTF HQ deployed from EUCOM to Entebbe, Uganda. This was so because the JTF did not have the capability to monitor or access the strategic airlift flow from the beginning.<sup>20</sup> The GDSS which monitored the airlift flow was not accessible by the JTF for the first three weeks because it did not have the hardware, software, communications, nor trained personnel to run it.<sup>21</sup> Also, according to Captain Dan Horack, the J3 for Air in the JTF, even after the GDSS was set up it was not fast enough and did not provide enough information.<sup>22</sup>

In addition, missions in the GDSS periodically conflicted with each other without any warning to system users. This prevented the TACC and deployed personnel from cross-checking, and when problems did occur, such as dual-tasking of missions, short-notice changes caused a domino-effect in the strategic airflow.<sup>23</sup> As will be described later in this chapter, the deployed TALCEs were in much better shape than the EUCOM JTF headquarters at Entebbe.

Another problem with execution planning was the interface between the TACC, EUCOM and the United Nations. The UN controlled the slot times for aircraft into Goma, Zaire, and Kigali, Rwanda, from its office in Geneva, Switzerland.<sup>24</sup> Since other nations were airlifting supplies, this made coordination very difficult, and MOG problems

quickly developed. Allowing the UN to control these slot times was described by one participant as "a big mistake."<sup>25</sup>

Because far fewer U.S. personnel were deployed, JOPES was not overwhelmed. However, according to Lieutenant Colonel Charles Peterson, Chief of Contingency Operations for the TACC at Scott AFB, TPFDLs were only "sixty percent accurate."<sup>26</sup> According to Lieutenant Colonel John Crary, Chief of the Collections Division at CALL, there was not an adequate number of JOPES trained operators at the deploying units, and subsequently last minute changes to the TPFDL were not inputted efficiently into JOPES.<sup>27</sup> Also, Captain Horack stated that the use of JOPES in the JTF at Entebbe was very poor the first two weeks of SUPPORT HOPE because there was no JOPES expertise.<sup>28</sup>

Lieutenant Colonel Crary actually spent time in Zaire and Rwanda during SUPPORT HOPE collecting lessons learned for CALL. He said that the basic problem with JOPES and the TPFDLs is responsibility. With JOPES, "no one knows how to use it," while the TPFDLs are often created by the rear area or CONUS commanders instead of the JTF commanders.<sup>29</sup> Captain Horack confirmed this conclusion by describing how the biggest problem with creating an efficient strategic airlift flow was that there were "too many different people with priorities."<sup>30</sup> These included the JTF commander, NATO, UN, EUCOM, and that changes would occur up until two hours prior to departure. In other words, there was no unity of command when it came to prioritizing what was to be airlifted.

Captain Horack further described this problem as one of "push" overriding "pull." Instead of the JTF commander running the show, there were too many rear echelon people trying to do his job. Rhein Main became a filter for priorities instead of the JTF.<sup>31</sup>

ITV was poor for SUPPORT HOPE for several reasons. One reason, according to a CALL report, was that "detailed information on cargo

loads and aircraft schedules were not readily available."<sup>32</sup> This report also stated that there was no single system available to the JTF commander to provide load information, and that "excessive man-hours were expended to gather and correlate information from multiple theater and CONUS sources."<sup>33</sup> A second reason why ITV was poor was that more than 50 percent of U.S. Army loaders involved in this operation did not know what was being loaded onto aircraft.<sup>34</sup> And three, lack of an interface with UN operators in Geneva made visibility of aircraft cargoes on international aircraft very difficult. Like JOPES, the ITV process appeared to have remained poor from DESERT SHIELD and RESTORE HOPE.

The strategic airlift mission closure rate of 59.25 percent reflected this problem in both long-term and execution planning.<sup>35</sup>

#### Basing

Except for some minor problems which were resolved early in the operation, AMC and USTRANSCOM appeared to have maximized the basing issues for strategic airlift. This was an especially noteworthy achievement because of the lack of FOBs, their remote locations in Central Africa, austere infrastructure, and serious security problems with over two million starving, diseased, and dying refugees surrounding them.

As in RESTORE HOPE, there was a very limited number of enroute bases and FOBs for SUPPORT HOPE. Like DESERT SHIELD and RESTORE HOPE, SUPPORT HOPE strategic airlift missions originated from the CONUS. C-5s and C-141s would fly into Rhein Main, Germany, the main European hub for this operation, change crews, and fly into the AOR. About half the missions would air refuel enroute to Kigali, Rwanda, or Goma, Zaire, while the other half would refuel on the ground at Entebbe, Uganda,

before flying to those two locations. After unloading their relief supplies and troops in Zaire and Rwanda, aircraft would then fly to Mombasa, Kenya, to refuel and then return to Rhein Main.<sup>36</sup>

The key hub in the AOR was Entebbe, with over three hundred air mobility personnel operating two TALCEs around the clock. Twenty-four hour operations were also quickly established at Kigali and Goma. More airlift quickly became available than these bases could handle, so precise airlift scheduling became critical.<sup>37</sup> Goma, which was located near the main refugee camp, could handle only one large aircraft every ninety minutes and quickly became a bottleneck.<sup>38</sup>

Because of their typical third world infrastructure, the MOG at Goma, Kigali, and Mombasa quickly became the limiting factor to throughput. The use of between six and eleven C-130s based in Entebbe partially alleviated this MOG, as they would fly to dirt strips not usable by the strategic airlifters.<sup>39</sup>

Because Frankfurt is four thousand miles from Rwanda and because aviation fuel was the major supply concern for the airlift, AMC made extensive use of aerial refueling.<sup>40</sup> The impact of air-refueling was demonstrated during one of the first strategic airlift missions of RESTORE HOPE when a C-5 flew from Travis AFB, California direct to Goma in twenty-one hours. It used three inflight refuelings which allowed the delivery of a water purification unit in record time.<sup>41</sup>

Most aerial refueling missions, however, originated in Rhein Main, and would fly to Goma or Kigali via a single aerial refueling track in Greek airspace. Tankers based at Mildenhall, England, and Soudo Bay, Greece, augmented the European Tanker Task Force, which supported an airflow of nine C-141 and five C-5 missions per day through this air-refueling corridor.<sup>42</sup> In addition, four KC-10s deployed to Harare, Zimbabwe, and provided fuel to aircraft which got delayed over

Goma, and they delivered fuel to Entebbe where it was used for theater operations. By refueling enroute, strategic airlifters were able to have enough fuel to recover at Mombasa, Kenya, where they would ground refuel and stage back to Europe.<sup>43</sup> According to CALL, this was a well designed aerial refueling plan which maximized throughput. Of the over twelve hundred air mobility missions, over four hundred were aerial refueling sorties.<sup>44</sup>

Even though Mombasa provided a critical ground refueling stop, its MOG was limited to five C-141s and two C-5s. This limited throughput into the AOR to 1012 tons per day.<sup>45</sup> To expand throughput, AMC requested Jeddah, Saudi Arabia, as a stage base, but this request was denied by Saudi Arabia.<sup>46</sup>

It is interesting to note that Rhein Main, the European hub for the SUPPORT HOPE strategic airlift, is scheduled to close later this decade, and Ramstein AB, Germany is scheduled to replace Rhein Main. Because Ramstein has only half the throughput capability of Rhein Main, the CALL after action report on SUPPORT HOPE recommended that EUCOM "retain the capability to quickly return Rhein-Main to full operational status in support of future contingency operations."<sup>47</sup>

While airlift planners maximized the availability of bases in the AOR and utilized aerial refueling effectively, they also solved enormous problems with base infrastructure. According to personnel at CALL, AMC, and other organizations interviewed for this thesis, all stated that the TALCEs did an "excellent" job. The TALCE concept was the key to making this operation run well. Communications with the TALCEs were good according to Major Brett Scharringhausen, the Deputy Chief of Mission Support and Augmentation Division, HQ AMC/TACC.<sup>48</sup> He stated that there was adequate access to GDSS, satellite communication (SATCOM), and fax for all downrange TALCEs.

The problem with communications in the AOR has already been discussed; the EUCOM JTF at Entebbe had neither the trained mobility staff nor equipment to track the strategic air flow.<sup>49</sup> As a result, the TALCEs had to track the theater airlift, which placed a burden on them because they were designed for strategic airlift.

The only problem with the TALCEs, according to Colonel James G. Dickensheets, the Director of Current Operations for the TACC, was that they were stretched thin around Africa.<sup>50</sup> There were five TALCEs located in eight locations throughout Africa including Harare, Goma, Mombasa, Kigali, Entebbe, and also in the Caribbean.<sup>51</sup>

These TALCEs were utilized as part of a new support concept called the GRLP which AMC had developed as a result of its experiences in Somalia. According to Major Scharringhausen, the GRLPs worked "great" during SUPPORT HOPE.<sup>52</sup> The introduction of the GRLP marked a significant milestone in AMC's quest at eliminating inefficiencies in basing.

Because of the GRLP and supporting TALCEs, strategic airlift experienced no significant problems with MHE, maintenance, or supply at enroute and FOBs, but only after AMC had put all needed items in theater.<sup>53</sup> Fuel was known to be a major problem from the beginning of RESTORE HOPE, and AMC made adequate arrangements with aerial refueling and securing fuel at Entebbe and Mombasa. However, some TALCEs were initially ineffective because EUCOM did not provide adequate base operating systems (BOS).<sup>54</sup> These are items that run a base and include fire trucks, tents, security police, mess halls, and latrines. BOS continues to be a major problems for AMC today because airlifters are normally the first units in an AOR, and most CINCs don't react fast enough to support them.



Major Scharringhausen summarized the BOS issue when he said, "Warfighting CINCs must realize they need the mission support assets before the rest to get bombs on target."<sup>55</sup> The most critical BOS problem was poor security for the TALCEs. With millions of starving refugees, people were "everywhere," and there were not enough security police.<sup>56</sup> A SUPPORT HOPE hot wash at AMC recommended that TALCEs deploy with security teams to avoid this problem.<sup>57</sup>

The effectiveness of the TALCEs were reflected in the general praise for deployed AMC personnel. Lieutenant Colonel Crary, United States Army (USA), commented that stage managers were effective in running the airflow, and the CALL after-action report lauded AMC personnel from the TACC at Scott to the TALCEs in Africa.<sup>58</sup>

The same could not be said about the JTF. It had untrained airlift personnel which caused confusion during the first days of RESTORE HOPE. It was not until the DIRMBOFOR, Brigadier General Ingersol, arrived that the strategic airflow was organized and correct priorities established.<sup>59</sup> EUCOM was reluctant to ask for help from AMC and USTRANSCOM, and AMC personnel had trouble finding points of contact in EUCOM and the JTF for various aspects of this operation.<sup>60</sup>

#### Summary

The SUPPORT HOPE strategic airlift was a success, as was DESERT SHIELD and RESTORE HOPE. Overall, AMC made inroads in improving planning and basing, but its customer in this contingency, USEUCOM, appeared unwilling to cooperate.

As the contingency got underway, there was neither an OPLAN, TPFDL, nor were strategic airlift planners involved in the early planning process. Planning factors were ignored by senior leaders in Europe. The little progress made during RESTORE HOPE in long-term

planning was lost as EUCOM repeated CENTCOM's mistakes from DESERT SHIELD.

Communication between USTRANSCOM, AMC, and EUCOM was initially poor, there were insufficient JOPES operators even for a contingency involving deploying twenty-five hundred troops, TPFDL accuracy was estimated by one AMC contingency planner as only sixty percent, and ITV was poor. Overall, both long-term and execution planning appeared to be back at DESERT SHIELD levels, with EUCOM the primary culprit.

But basing showed big improvements despite the remote location and austere conditions of Central Africa. AMC made excellent use of aerial refueling and TALCEs, introduced the GRLP, and secured two stage bases in the AOR but was denied use of a third. Communication between deployed TALCEs was good, although the EUCOM JTF experienced numerous problems. Although EUCOM did not supply adequate BOS, AMC did, attesting to the well trained AMC personnel deployed for this operation.

AMC made SUPPORT HOPE work because it created a CONOPS that substituted for no deliberate planning by EUCOM and rapidly established an efficient enroute and FOB system which worked around the confused EUCOM JTF. AMC made SUPPORT HOPE work despite serious shortcomings by EUCOM.

CHAPTER 7  
UPHOLD DEMOCRACY

It is an exceptionally well-executed operation.<sup>1</sup>

Secretary of Defense William Perry, Pentagon  
Press Conference, 5 October 1994

We could not have done Haiti and SUPPORT HOPE  
simultaneously.<sup>2</sup>

Brigadier General George Gray, III  
DIRMOBFOR, UPHOLD DEMOCRACY

Introduction

Operation UPHOLD DEMOCRACY was the peaceful restoration of democracy to Haiti via the permissive, or peaceful entry of 25,000 U.S. troops beginning on 19 September 1994. This operation came within two hours of becoming the biggest airdrop of paratroopers since MARKET GARDEN during World War II. Sixty-one C-130s were airborne and sixty C-141s were on runways on the East Coast of the U.S. with 3700 hundred paratroopers when the mission was canceled.<sup>3</sup>

The mission of UPHOLD DEMOCRACY included protection and, if required, evacuation of U.S. citizens, the maintenance of a stable and secure environment for the legitimate government to return, logistical support for the multinational force, restoration of civil order, and training of the Haitian military into a professional force.<sup>4</sup>

The initial aims of this operation were completed on 15 October 1994 when President Jean Bertrand Aristide was returned to power in Haiti after three years of military dictatorship.

### Planning

Unlike the Gulf War, Somalia, and Rwanda, Haiti had a detailed OPLAN. In fact it had two plans which had been written during the twelve months prior to execution of this contingency. These included OPLAN 2370 for JTF 180, the plan for the non-permissive entry using almost four thousand paratroopers, and OPLAN 2380 for JTF 190, the plan for the permissive entry of Haiti.<sup>5</sup> These plans were written by the staffs of the XVIII Airborne Corps and the 10th Mountain Division respectively. U.S. Atlantic Command (USACOM) oversaw the development of both OPLANs.

This planning was done right up until D-Day when the President decided to use a modified version of OPLAN 2380 which became the "permissive plus plan."<sup>6</sup> According to Lieutenant Colonel Mike Gelwix, the Chief of Staff and G-3 for JTF Mountain, which was the subordinate headquarters to JTF 190 and situated on the USS Whitney off the coast of Haiti, they were not ready for the change in execution from OPLAN 2370 to OPLAN 2380 in so short a period of time.<sup>7</sup> He said that "We(I) failed to plan for the worst."<sup>8</sup> Other sources confirm these problems.

Colonel Dickensheets at the HQ AMC/TACC said that compartmentalized planning was a problem, and a CALL report stated that:

The close hold nature of information surrounding operations in Haiti adversely affected some aspects of planning. This was most notable in the area of logistics, engineer operations, land management, and detailed planning for the permissive entry option. The last minute nature of the shift from the forced entry to a permissive entry further compounded the situation by invalidating assumptions as to what assets would precede the follow on forces.<sup>9</sup>

Several problems resulted from taking two OPLANs up until execution. According to CALL, "there was not enough strategic airlift to support both plans well."<sup>10</sup> Also, it became very difficult to change

the TPFDLs. According to Lieutenant Colonel Gelwix, the TPFDL for the permissive entry was not even completed prior to deployment to Haiti. He said that the "nightmare" began when the 82nd Airborne Division turned around in flight and his staff began to do a teleconference on the USS Whitney to finish OPLAN 2380.<sup>11</sup>

Because of last minute planning due to the sudden change from a non-permissive to a permissive entry, there was mass confusion at the airport at Port-au-Prince, the main APOD for the strategic airlift. The 436th Airlift Wing TALCE from Dover AFB, Delaware, did not arrive until H+24, there were no air traffic controllers initially, and a severe shortage of military policemen became evident.<sup>12</sup> At the airfield helicopters were flying "everywhere," a Combat Control Team (CCT) had only one HF radio on the airfield, a 747 aircraft with hundreds of troops had to land with virtually no one controlling the airfield, and crowd control was difficult. It was not until H+6 that U.S. forces had control of the airfield and not until D+2 that the airfield at Port-au-Prince became completely operational.<sup>13</sup> TPFDL changes caused other problems which will be discussed under basing.

According to Colonel Dickensheets, there was a USTRANSCOM liaison officer at USACOM, but "there were not enough of them."<sup>14</sup> In addition, the Air Force senior officer for UPHOLD DEMOCRACY, Brigadier General George Gray, III, was not involved at all in the planning process.<sup>15</sup> In fact USTRANSCOM was not invited into the deliberate planning process until four months after OPLAN development began in earnest in January 1994.<sup>16</sup> The sudden mission change affected Air Force operations greatly, but General Gray and his eight hundred Air Force personnel running the operations at Port-au-Prince did an excellent job despite being initially in the dark.<sup>17</sup>

Because of this failure by USACOM to include AMC and USTRANSCOM planners early in the planning process, planning factors were not realistic. In fact, according to Lieutenant Colonel Charles Peterson who helped plan the strategic airlift flow, it took "two weeks" to straighten the airlift out.<sup>18</sup> However, USTRANSCOM did inform USACOM that it would take four days for airlift to transition from OPLAN 2370 to OPLAN 2380.<sup>19</sup> In reality, they got two hours!

The quick change in plans initially caused problems in execution planning, but these were resolved very quickly. Apparently there were no major communications problems between AMC and JTF 190 deployed to Port-au-Prince. The DIRMOBFOR, General Gray, attended the daily briefings and became actively involved in UPHOLD DEMOCRACY despite being left out of the pre-D-day planning.<sup>20</sup> An Army participant at these briefings described Air Force participation as a "good example of jointness."<sup>21</sup>

According to Major Brett Scharringhausen, there were no major problems with GDSS or the flight following systems. However, an AMC lessons learned briefing revealed that GDSS was not updated on a "consistent basis" and false information was inserted in order to complete a mission.<sup>22</sup> Although the strategic air flow became a bottleneck in the first several days because of the hastily built TPFDL, this was soon refined so that aircraft arrived at fifteen minute intervals at the height of the deployment.<sup>23</sup> As in DESERT SHIELD, RESTORE HOPE, and SUPPORT HOPE, slot time assignments for airlifters solved the problem of aircraft being "stacked up" after the first few days.<sup>24</sup>

The biggest planning problems for UPHOLD DEMOCRACY seemed to be a recurrence from the three previous strategic airlifts: JOPES and TPFDL updates. According to Colonel Dickensheets, there were not an adequate

number of JOPES-trained operators at the deploying units. He also said that the theater CINCs need to train more people in JOPES.<sup>25</sup> Captain Mark Williams, USA, a CALL observer in Haiti, echoed this criticism and said that Fort Drum, the home of the 10th Mountain Division, and JTF 190 at Port-au-Prince both had to be augmented with JOPES operators because there were not enough trained people.<sup>26</sup>

Because of this, TPFDLs could not be inputted into JOPES fast enough.<sup>27</sup> As in DESERT SHIELD, RESTORE HOPE, and SUPPORT HOPE, JOPES in UPHOLD DEMOCRACY was characterized as slow, cumbersome, not-user friendly, and inadequately manned at the deploying units.<sup>28</sup>

In-transit visibility was a big improvement, with most participants stating that the JTF at Port-au-Prince knew what was on inbound strategic airlifters "80 percent" of the time.<sup>29</sup> Captain Steven Greogorcyk, Chief, ITV Cell at HQ AMC/TACC stated that although ITV is "still in its infancy" and that there is still "no official metric approved by the Air Force" to measure it, ITV was good during UPHOLD DEMOCRACY.<sup>30</sup> He said that software programs being developed should allow greater detail and less time to locate specific cargoes. However, Lieutenant Colonel Gelwix said that the JTF had "no idea" what was on incoming aircraft until the TALCEs arrived twenty-four hours into the operation.<sup>31</sup> HQ AMC confirmed this in their after action report, saying that ITV was "extremely limited," and that "Most deploying units did not provide necessary data elements."<sup>32</sup> A CALL reported summarized the state of ITV in Haiti:

From the macro level of monitoring supplies as they were brought into the theater of operations, the system worked. During Operation UPHOLD DEMOCRACY, containers of supplies could be tracked from the sustaining base. But, from the micro level, tracking of the eachs within that container did not work well. Containers were labeled with a generic description of supplies . . . soldiers were required to open each container as it came into the port in order to find out what was in it.<sup>33</sup>

It appears that AMC and USTRANSCOM did their part of ITV, but the user still needs to do more. Opening containers to determine their exact contents occurred four years earlier during DESERT SHIELD!

The overall improvements in planning, despite confusion created by the last minute switch in OPLANs and recurring problems with JOPES and TPFDLs, allowed the high on-time mission closure rate of 69.82 percent.<sup>34</sup>

#### Basing

Of all the strategic airlift contingencies studied thus far in this thesis, UPHOLD DEMOCRACY had the least problem with basing. Because Haiti was only one thousand miles from the East Coast of CONUS, there was no need for aerial refueling or a stage base in the AOR. However, as in Somalia and Rwanda, there was only one FOB, Port-au-Prince, and its MOG became the limiting factor in the airlift. The ramp there was so small that two large aircraft could not park side by side.<sup>35</sup>

The primary APOEs included Dover AFB, Delaware for C-5s and Pope AFB, South Carolina for C-141s. A typical C-5 or C-141 mission would depart one of these bases, fly to Haiti either direct or via another onload base, and return to Dover or Pope to change crews.<sup>36</sup>

Base infrastructure posed more challenges during this operation than availability of bases. Communications between the TACC, deployed TALCE, and JTF 190 were described by Captain Williams as "excellent." This dialogue allowed problems to be fixed quickly.<sup>37</sup> However, during the first three days there was no unity of command on the airfield, resulting in a cluttered airport which hindered offload operations as helicopters flew "everywhere," severely compromising safety procedures.<sup>38</sup> These problems were finally resolved by the third day.<sup>39</sup>



But once the TALCE arrived, its eight hundred personnel, under the leadership of General Gray, turned the airfield into a well-functioning international airport in a very short time. The deployed air mobility personnel accomplished their mission under living conditions that were worse than those faced by their counterparts in the Gulf, Somalia, or even Rwanda, even though Haiti was just off the U.S. coast. These conditions included lack of toilets, tents, cots, food and water, and remained problems until ten days into the mission. According to CALL, the poorly planned TPFDL for the permissive entry missed these items.<sup>40</sup>

Four hundred TALCE personnel slept on the floor of the American Airlines Terminal at Port-au-Prince airport, shared three sporadically working latrines, and had no showers for the first week.<sup>41</sup> By the end of that first week, meals and water even had to be rationed.<sup>42</sup> The user, the JTF-190, would not allow support to airfield personnel to get ahead of military equipment and troops in the airlift flow.<sup>43</sup> The biggest problem was that there were no portable toilets, and once this was resolved by D+12, there then occurred a shortage of trucks to empty these latrines. These were not brought in until D+24.<sup>44</sup> The poor living conditions at Port-au-Prince airfield were summarized by TALCE personnel when they named their living area "Hotel Paradise."<sup>45</sup>

Colonel Dickensheets summarized the cause of these horrible living conditions as "users not understanding the needs of airlifters."<sup>46</sup> Lieutenant Colonel Gelwix said these problems originated in the sudden change from one OPLAN to another, and Major Scharringhausen said that this was simply another example of CINCs not realizing the importance of mission support assets for airlifters.<sup>47</sup>

Another problem which was potentially much more serious was a lack of security for the airfield. As in SUPPORT HOPE, people wandered

everywhere, and security became a major concern, although there were no incidents with TALCE personnel. Overall, the GRLP worked well, but it was not used during the pre-planning as it was designed for.<sup>48</sup>

Maintenance, supplies, and MHE were not major problems after the first week of UPHOLD DEMOCRACY, although General Gray said that it took a short while to get his NCOs on-line into the Army support system.<sup>49</sup> Also, there was a shortage of MHEs for Army operations but not for airlift operations.<sup>50</sup>

But a serious problem occurred as the October 1994 crisis in Kuwait unfolded. According to Captain Williams who was in Haiti from 25 October to 15 December 1994, "Sustainment bogged down as strategic airlifters were diverted to Southwest Asia in support of VIGILANT WARRIOR. Fortunately, sealift was able to fill this sustainment gap."<sup>51</sup>

All research indicated that the TALCE personnel were very well trained and highly effective despite the austere living conditions. A CALL report said, "The leadership couldn't give enough credit to the professionalism and capability of their [TALCE] personnel."<sup>52</sup> However, the same could not be said of stage managers in the CONUS, especially at Pope AFB. An AMC Hot Wash briefing stated that, "apparent lack of experience of stage managers at Pope and lack of communications between Pope and the TACC resulted in fragmented decision-making."<sup>53</sup>

Another problem was that there was not a single organization that controlled the entire airfield for the first three days, and several reports blamed this not on AMC but on JTF 190.<sup>54</sup> HQ AMC recommended that a joint agency be established to run the air traffic flow into airfields during contingencies to avoid this hazardous situation again.<sup>55</sup>

By 27 October 1994, the TALCE had handled over 1250 missions, unloading 18,000 tons and over 30,000 passengers.<sup>56</sup>

### Summary

UPHOLD DEMOCRACY was a success despite the sudden change in plans initiated by the National Command Authorities (NCA), with improvements in most areas of planning and basing. However, problems remained that were reminiscent of DESERT SHIELD, RESTORE HOPE, and SUPPORT HOPE. Problems with JOPES and TPFDLs continued despite the major problems they caused in previous operations. Availability of bases was less an issue because of Haiti's proximity to the U.S., but base infrastructure posed major challenges for TALCE personnel the first weeks of UPHOLD DEMOCRACY. Fortunately, well-trained air mobility troops solved these problems and made the strategic airlift a success.

One additional problem warrants discussion, a problem which was far more serious than ones already mentioned. According to General Gray, "We could not have done Haiti and SUPPORT HOPE simultaneously" because there were not enough TALCEs to support both operations.<sup>57</sup> It was not until Rwanda was completed that AMC had enough TALCEs for UPHOLD DEMOCRACY. But sustainment airflow to Haiti was severely affected when VIGILANT WARRIOR began because there was not enough strategic airlift to support both operations.

The next chapter on VIGILANT WARRIOR will examine this issue further and determine if, after almost five years, strategic airlift inefficiencies in planning and basing were finally solved.

## CHAPTER 8

### VIGILANT WARRIOR

The first lesson is that we are very pleased with our ability to respond quickly, be flexible, adjust the flow as we thought we needed to, put significant numbers of troops on the ground with their equipment.<sup>1</sup>

Dennis Boxx, Pentagon spokesman

Strategic airlift in this country today is broken. I'm not sure it is workable today for one major regional contingency.<sup>2</sup>

General Joseph P. Hoar, CINCCENTCOM, Senate Testimony

#### Introduction

In early October 1994, Saddam Hussein moved 40,000 well-armed troops to within fifteen miles of the Kuwaiti border.<sup>3</sup> To deter a second invasion of Kuwait, President Clinton directed a massive deployment of over 33,000 U.S. troops to the region.<sup>4</sup> As the first C-5s and C-141s began touching down in Kuwait City, Iraq began withdrawing troops from the border, and the President decided not to deploy most of the remaining forces.

This U.S. response to Iraqi aggression was named "VIGILANT WARRIOR," and between 8 October 1994 and 14 December 1994, AMC flew over two thousand strategic airlift missions, airlifting over 21,000 passengers and over 9,000 tons of cargo.<sup>5</sup> While this contingency was considered yet another successful airlift, some problems occurred which were reminiscent of DESERT SHIELD.

### Planning

Unlike DESERT SHIELD, VIGILANT WARRIOR had an existing OPLAN and TFPDL prior to the crisis. However, this OPLAN was designed for a contingency the size of the Gulf War four years earlier, or as one AMC planner stated, for "World War III."<sup>6</sup> Planners had difficulty building a smaller "brush fire" plan of the size VIGILANT WARRIOR became.<sup>7</sup>

While CENTCOM and AMC both had the original OPLAN, the HQ AMC/TACC still built a plan from scratch because it didn't know that HQ AMC/DOXP, the plans division, already had a plan.<sup>8</sup> Ironically, both these organizations are in the same building at Scott AFB, and the plan the TACC developed caused confusion at USTRANSCOM, AMC, and AMC wings.<sup>9</sup>

Unlike Operation DESERT SHIELD, a TFPDL existed for this contingency, but it was designed to support the "WW III-size" OPLAN, not this much smaller deployment. But similar to the previous four strategic airlifts studied in this thesis, old TFPDL data was in the OPLAN and this required a complete revision prior to execution of the plan.<sup>10</sup> In some cases units listed in the TFPDL had been deactivated, a recurrence from DESERT SHIELD.<sup>11</sup>

According to Major Diane Byrne, the Chief of Southwest Asia and CONUS Plans for HQ AMC, personnel from AMC and USTRANSCOM were involved early in the planning process for VIGILANT WARRIOR.<sup>12</sup> However, airlift operations were hampered by late receipts of the OPORD and CONOPS.<sup>13</sup> Planning factors were realistic, with initial estimates given to USCENTCOM being very accurate. But as the operation unfolded, these initial estimates became less reliable because, according to Major Byrne, AMC began running out of aircrews because the reserves had not been mobilized.<sup>14</sup>

According to Colonel James Dickensheets of HQ AMC/TACC, there was good communication between AMC, USTRANSCOM, and the users.<sup>15</sup> But the NCA made things very difficult by constantly changing the mission. Lieutenant Colonel Charles Peterson stated that heavy use of the telephone ensured communications with the customers were always good.<sup>16</sup> However, one problem was that taskings sometimes were not routed through the correct approval process. This caused delays, waste of resources, and confusion.<sup>17</sup>

Command and control systems worked well for this airlift despite some minor problems. The GDSS was set up in theater on 16 October 94 in only twelve hours and experienced no major problems.<sup>18</sup> But the GDSS was not always updated by stage managers, and subsequently there was missing and late crew and mission information.<sup>19</sup> For the first time, the Command and Control Information Processing System (C2IPS) was integrated into tactical data networks.<sup>20</sup> The C2IPS "Provides automated capability to perform command and control functions associated with planning, scheduling, and global execution monitoring of AMC's airlift and air refueling missions."<sup>21</sup> This system is scheduled to replace the GDSS terminals at the wing level by 1996 and improve overall command and control of air mobility assets.

JOPES and timely updating of the TPFDL were still major problems during VIGILANT WARRIOR, showing little progress since DESERT SHIELD. According to Lieutenant Colonel Crary, there were not enough JOPES-trained operators available at the deploying units, and it took thirty days to get a JOPES team into the Gulf.<sup>22</sup> He also stated that "No one knows how to use JOPES," and "No one wants to take responsibility for it."<sup>23</sup>

Poor JOPES operations hindered efficient updates of the TPFDLs. Because of the rapidly changing situation in Southwest Asia and

resulting NCA decisions, last minute changes in the TPFDL became the biggest problem of this airlift. Since anyone can have access to JOPES and because there still is no centralized JOPES control, invalidated requests caused great disruptions in the strategic airflow.<sup>24</sup> For example, invalid TPFDL inputs caused six commercial airlift missions valued at \$1.5 million to be canceled.<sup>25</sup>

Another problem with the TPFDL was that the USCENTCOM CINC, not the deployed theater commander, controlled it.<sup>26</sup> This process made it less responsive to those in the AOR. Also, TPFDL changes occurred so often, sometimes hourly, that HQ AMC/TACC planners were "somewhat powerless to react to the change in the timely manner that the customer desired."<sup>27</sup>

Inaccurate TPFDLs, poor JOPES operations, rapidly changing requirements, and poor TPFDL discipline all caused ITV and mission closure rates to be poor. One participant said that ITV was difficult and occurred "only when a three or four star was involved."<sup>28</sup> However, Captain Gregorcyk of the HQ AMC/TACC ITV cell said that on "ninety-eight percent of mobility contingencies, people and cargo can be tracked."<sup>29</sup> The biggest problem was detailed ITV, with the contents of individual containers not being marked properly.

During this contingency 59.62 percent of all strategic airlift missions closed on time.<sup>30</sup>

#### Basing

VIGILANT WARRIOR had fewer problems with basing than with planning, an overall improvement since UPHOLD DEMOCRACY. This 1994 deployment to the Gulf benefited from an adequate enroute and forward operating base structure as a result of DESERT SHIELD. However, there were fewer enroute bases in Europe, which created extra challenges.

Because the first units deployed to Southwest Asia included the 24th Mechanized Infantry Division, 101st Airborne (Air Assault) Division, and numerous fighter squadrons, the strategic airlift originated in the CONUS, flew to enroute bases in Europe, then continued their flights with new crews to Kuwait City, Dhahran, and other Gulf bases, and then returned to Europe where a third crew flew the aircraft back to CONUS.

The mission flow was very similar to DESERT SHIELD, but with two major exceptions. One, more aerial refueling was utilized, and two, there were fewer enroute bases. Rota AB, Spain was the only twenty-four hour base available in Europe for this airlift, with Ramstein AB, Germany closed for runway repair, and Rhein Main capable of limited operations. Torrejon AB, Spain, a major base during DESERT SHIELD, was closed and in a caretaker status. In a contingency, HQ AMC planners believe it should become available, but Spain would not allow it to be opened during this crisis.<sup>31</sup> Rhein Main is also scheduled to close soon, with the understanding with Germany that it could become available during a contingency.

As during DESERT SHIELD, the MOG at FOBs became a limiting factor. Even though during the Gulf War over sixty percent of strategic airlift went into Dhahran, during Vigilant Warrior four years later Dhahran was "over-MOGed."<sup>32</sup> An AMC after-action briefing recommended that a MOG study for Southwest Asia be conducted to avoid this problem again.<sup>33</sup>

More airlifters were air refueled during VIGILANT WARRIOR than DESERT SHIELD, but there were not enough air refueling tracks, and fighter aircraft got priority for aerial refuelings.<sup>34</sup> KC-135 and KC-10 aircraft were stationed primarily at Lajes AB, the Azores, and Moron AB, Spain, along with others at East Coast bases and at four airfields



within Southwest Asia.<sup>35</sup> Less than twenty percent of all strategic airlift missions aerial refueled, and most that did performed two air-refueling from the CONUS direct to the Gulf.<sup>36</sup>

Unlike DESERT SHIELD, a stage base was secured in theater, at Dhahran, but because VIGILANT WARRIOR never expanded to its planned size, it never had to be fully utilized.<sup>37</sup> However, crews did use it as a stage base, especially those that flew directly from the CONUS.

Overall, base infrastructure was improved since DESERT SHIELD, continuing the general trend from RESTORE HOPE, SUPPORT HOPE, and UPHOLD DEMOCRACY. But some lingering problems remained.

Communication with bases throughout the enroute system was described by AMC and CALL personnel as "excellent."<sup>38</sup> According to the DIRMBOFOR for Vigilant Warrior, Brigadier General Richard C. Marr, "All basic voice communications requirements for the AME [Air Mobility Element] were fulfilled in record time."<sup>39</sup> These included UHF, VHF, HF, DSN, Theater Tactical Telephones, pagers, and land mobile radios.<sup>40</sup> There were no significant problems tracking aircraft throughout the airlift system. However, an AMC Joint Universal Lessons Learned (JULLS) report stated that stage managers did not update squadrons on the status of aircrews.<sup>41</sup>

The TALCEs and GRLP worked extremely well during VIGILANT WARRIOR, not only because of further refinement of these concepts and excellent personnel, but also because the existing infrastructure enroute and in theater were well developed. Compared to RESTORE HOPE, SUPPORT HOPE, and UPHOLD DEMOCRACY, the environment in Southwest Asia was better developed.

The TALCEs were deployed to Ft. Stewart, Georgia to deploy the 24th Mechanized Infantry Division; to Ft. Campbell, Kentucky for the 101st Airborne Division (Air Assault); to Moron AB, Spain; to Dhahran;

and to Kuwait City.<sup>42</sup> The major component of the GRLP, the AME, made its first "full-up" deployment during this contingency.<sup>43</sup> The AME's mission is to serve as the theater commander's agent for all theater mobility issues while coordinating and monitoring strategic airlift and tanker activities.<sup>44</sup> With its ninety-four personnel during VIGILANT WARRIOR, it became fully integrated with the J-3 Air Operations Center (JAOC). According to General Marr, the AME accomplished its primary mission very well, although it took some time to be fully utilized by the AFFOR.<sup>45</sup> The HQ AMC JULLS report also concluded that "The AME structure, in place, is the ideal vehicle for the DIRMOBFOR to execute his/her responsibilities."<sup>46</sup>

Major Brett Scharringhausen, the Deputy Chief of Mission Support and Augmentation Division, HQ AMC/TACC, said that VIGILANT WARRIOR was a contingency in which TACLEs and GRLP components augmented many existing facilities instead of using bare bases as during SUPPORT HOPE and UPHOLD DEMOCRACY.<sup>47</sup> Because DESERT STORM was technically still in progress, not as many TALCEs were needed during VIGILANT WARRIOR.

While the TALCE and AME worked very well, deployed air mobility personnel did have problems with MHE, supply, and BOS, although none of these had a serious impact on the strategic airlift. According to CALL, there was not enough MHE in theater.<sup>48</sup> The DIRMOBFOR also identified several MHE deficiencies in his after action report. These involved numerous maintenance problems including one wide-body loader (WBL) that had seventeen maintenance write-ups and had not been serviced extensively since before DESERT STORM; only one Cochran WBL was assigned to Riyadh, and no Wilson WBL in Southwest Asia had technical orders or instructional manuals.<sup>49</sup>

Base operating systems were a problem but, according to Major Scharringhausen, it was not as serious as during SUPPORT HOPE and UPHOLD

DEMOCRACY because of the existing infrastructure in the Gulf. A HQ AMC briefing on BOS support during VIGILANT WARRIOR recommended that "Current Air Force policy needs to be reviewed in light of current Global Reach Policy."<sup>50</sup>

Ironically, there were shortages of ground transportation for aircrews at their home bases and at enroute bases, and there were shortages of billeting for aircrew members at Moron AB and Dhahran.<sup>51</sup> At Rota Naval Air Station (NAS), C-5 airflow overtaxed the truck refueling capability, and at Dhahran departures were delayed because 50 percent of civilian contract fuel trucks serviced Saudi civilian airliners before AMC aircraft<sup>52</sup> There were no other serious logistical shortages during VIGILANT WARRIOR for the strategic airlift.

Problems with stage managers during this contingency were reminiscent of DESERT SHIELD. A HQ AMC briefing stated that deployed officer and enlisted command post augmentees were untrained and inexperienced in stage and airlift flow management.<sup>53</sup> Specific problems included poor handling of aircrews at Dhahran, billeting aircrews with maintenance personnel at Moron which severely disrupted aircrews' crew rest, not recording and reporting aircrew status, and crews being placed in an extended alert status unnecessarily.<sup>54</sup> The conclusion of this briefing was that "AMC re-focus its efforts on developing, retaining, and deploying experienced personnel."<sup>55</sup>

#### Summary

Within twenty-four hours of Secretary of Defense Perry's statement that "There are 28,000 [U.S.] ground combat troops either in Kuwait or . . . committed to go to Kuwait," Saddam Hussein began pulling back his 40,000 troops from the Kuwait border.<sup>56</sup> Before it got fully started, VIGILANT WARRIOR had succeeded in deterring a possible Iraqi

attack on Kuwait. By 19 October 1994, 7,300 soldiers and over one hundred combat aircraft had been deployed to the Gulf.<sup>57</sup>

But while VIGILANT WARRIOR was an improvement from DESERT SHIELD and reflected continuing improvements in most areas of strategic airlift planning and basing, there were problems reminiscent of the Gulf War. Some of these problems were especially disturbing because VIGILANT WARRIOR was much smaller than DESERT SHIELD and these problems had also occurred during RESTORE HOPE, SUPPORT HOPE, and UPHOLD DEMOCRACY.

An OPLAN did exist with a supporting TPFDL for VIGILANT WARRIOR, but this plan was not readily tailored for a small contingency. This was an improvement from DESERT SHIELD, RESTORE HOPE and SUPPORT HOPE, but echoed the problems of UPHOLD DEMOCRACY of molding an existing OPLAN to a specific situation. Although a TPFDL existed, there continued to be inaccurate data, although not as frequent as during DESERT SHIELD.

Planners from AMC and USTRANSCOM were involved early in the planning process, although there were internal problems within AMC communicating the OPLAN and CONOPs. This marked improvements from DESERT SHIELD, SUPPORT HOPE, and UPHOLD DEMOCRACY and reflected the example set during RESTORE HOPE. Planning factors initially were realistic, much more so than during DESERT SHIELD, SUPPORT HOPE and UPHOLD DEMOCRACY.

VIGILANT WARRIOR had the least problems with communications between AMC, USTRANSCOM, and its users, with GDSS, C2IPS, and fax and telephone working well. Continuing efforts by AMC and USTRANSCOM to send teams of Colonels, called "Range Riders," to educate users appears to have paid off, but more work needs to be done.<sup>58</sup> This is reflected in the abysmal situation with JOPES and the ability to update rapidly changing TPFDLs.

ITV during VIGILANT WARRIOR showed improvements reflected in efforts made by AMC and USTRANSCOM during DESERT SHIELD, RESTORE HOPE, SUPPORT HOPE, and UPHOLD DEMOCRACY, but once again, the users were still not cooperating by accurately marking shipments with correct shipping numbers and contents. Improvements made in both deliberate planning and execution planning since DESERT SHIELD were reflected in the arrival reliability rate of 59.76 percent, much higher than the 35.5 percent rate of DESERT SHIELD.<sup>59</sup>

Of all five strategic airlift contingencies studied, VIGILANT WARRIOR had the least problems with availability of basing and with base infrastructure. MAC, AMC, and USTRANSCOM made excellent efforts to secure adequate enroute, FOBs, and stage bases during all five airlifts. As aerial refueling tankers were brought into AMC from the Strategic Air Command in June, 1992, they were successfully utilized during RESTORE HOPE, SUPPORT HOPE, and VIGILANT WARRIOR. And the problem of securing a stage base in theater was finally solved when USCENCOM granted AMC Dhahran for aircrew staging in October 1994.

Despite fewer enroute bases in Europe, base infrastructure was adequate during VIGILANT WARRIOR. Communication was excellent as exemplified with GDSS being established in only twelve hours within the theater. The creation of TALCEs, AMEs, and other components of the GRLP proved extremely capable during VIGILANT WARRIOR, culminating another upward trend in strategic airlift efficiency since August 1990.

While VIGILANT WARRIOR suffered from problems with MHE, maintenance, supply, and BOS, these were substantially less than during DESERT SHIELD, RESTORE HOPE, SUPPORT HOPE, and UPHOLD DEMOCRACY. Poorly trained stage managers during VIGILANT WARRIOR reversed an improving trend seen during the three previous airlifts, but overall the deployed

AMC personnel did an outstanding job and continued to receive numerous laudatory comments.

VIGILANT WARRIOR was another airlift success, clearly showing that AMC and USTRANSCOM had made substantial progress in eliminating inefficiencies of planning and basing. But continued noncooperation by the users, especially with JOPES, TPFDLs, and BOS, limited even greater improvements.

## CHAPTER 9

### CONCLUSIONS AND RECOMMENDATIONS

We at AMC react faster than customers can get ready.<sup>1</sup>

Major Diane Byrne, HQ AMC/DOXP interview

My experience has been the half-life of information is tied directly to the average duration of a single assignment. For most military people that turns out to be three years.<sup>2</sup>

General Ronald R. Fogleman, Speech to  
Council on Foreign Relations

#### Conclusions

What experience and history teach is this--that people and governments never have learned anything from history, or acted on principles deduced from it.<sup>3</sup>

G. W. F. Hegel, Philosophy of History

This chapter will answer the question: "Have the inefficiencies in strategic airlift planning and basing improved since Operation DESERT SHIELD?" After careful analysis of the strategic airlifts to Somalia, Rwanda, Haiti, and Kuwait, the answer to this question is a qualified "yes" (see tables 1 and 2). While most areas of planning and basing as defined in this thesis have improved, problems remain, most of which can be attributed to airlift customers.

The need for OPLANs is partially determined by the warfighting CINC who provides inputs into the Joint Strategic Capabilities Plan (JSCP), and if a crisis erupts in his theater, USTRANSCOM and AMC are dependent upon that CINC for guidance. However, as Lieutenant General Starling, former Deputy Commander in Chief of USTRANSCOM, stated in mid-

1993, his command was undergoing a review process to ensure there were plans for large and small contingencies.<sup>4</sup> In all five strategic airlifts, supported CINCs either had no plan or created a last-minute mutation of two OPLANs, as in UPHOLD DEMOCRACY, or a quickly condensed version of a much larger OPLAN, as during VIGILANT WARRIOR. While crises may not always lend themselves to an existing OPLAN, airlift (now referred to by AMC as air mobility) customers must make better efforts to create plans, and mechanisms must be found to expedite crisis planning. The current system, JOPES, is not fast enough to do the job, nor are there enough trained personnel to update rapidly changing TPFDLs. Every single contingency studied clearly demonstrated this weak link in strategic airlift.

Research also showed unified commands involving USTRANSCOM and AMC personnel early in the planning process and planning factors improving in accuracy; but, once again, the decision to involve airlift planners and to use their estimates is a customer decision. SUPPORT HOPE and UPHOLD DEMOCRACY clearly demonstrated the impact when airlift planners are not involved early and when their planning factors are ignored by the user.

Various information systems, such as GDSS and C2IPS, access to UHF, HF, SATCOM, telephone, and fax clearly improved during this time period. However, the four contingencies studied since 1992 were all less than 5 percent the size of DESERT SHIELD; therefore, these information systems were not nearly as taxed as during the Gulf War.

ITV continued to improve, but it appears to have reached a ceiling because the customers have yet to fully adopt Air Force ITV standards and to identify exactly the contents of specific containers.<sup>5</sup>



Despite continuing obstacles erected by various airlift customers, closure times actually improved during this period as the chart at the end of this chapter shows.

Despite continuing noncooperation from customers, basing improved more than planning because of the efforts of USTRANSCOM and AMC. Since 1989 the U.S. has closed or reduced scores of overseas military bases including such major strategic airlift hubs as Clark AB, Philippines; Rhein Main AB, Germany; and Torrejon AB, Spain. To partially compensate for this, AMC did an outstanding job integrating over 450 KC-135 and KC-10 tankers into its operations. This was clearly shown during RESTORE HOPE, SUPPORT HOPE, and VIGILANT WARRIOR, and allowed a rapid initial response and near maximum throughput. The importance of securing stage bases in theater was clearly learned, and customers seemed to have learned this too as demonstrated during VIGILANT WARRIOR. .

Base infrastructure and accompanying AMC personnel received constant praise, especially during RESTORE HOPE, SUPPORT HOPE, UPHOLD DEMOCRACY, and VIGILANT WARRIOR, with the ALCE/TALCE and GRPs contributing greatly to efficient airlift operations. However, BOS continued to be a major problem because the customers did not satisfy AMC's needs. This was demonstrated during RESTORE HOPE with its shortage of security police and UPHOLD DEMOCRACY when TALCE personnel had to ration food and water at the end of the first week, and during VIGILANT WARRIOR with shortages of functional MHE.

While deployed AMC personnel were lauded constantly during all five contingencies, stage managers received mixed reviews, with problems still occurring during UPHOLD DEMOCRACY and VIGILANT WARRIOR.

Clearly, then, the inefficiencies in strategic airlift planning and basing have improved for the most part since Operation DESERT

SHIELD, but problems remain, problems mainly attributable to airlift customers. USTRANSCOM and AMC have made major efforts to improve strategic airlift efficiency, but unless their customers, primarily the supported CINCs, other Air Force organizations, the other services, and increasingly other nations follow the advice of the air mobility experts at Scott AFB, further improvements are doubtful.

#### Recommendations

We are faced with the challenge of dealing with declining resources even while the need for our mobility service is growing. That means we must thoroughly explore all good ideas, be willing to change our way of thinking when old paradigms block our progress, and wring each process for higher effectiveness and efficiency . . . Business as usual will kill us.<sup>6</sup>

General Robert L. Rutherford, Airlift/Tanker Quarterly

The key problem, then, is illustrated in the concept of customer service. While airlift customers demand sufficient and rapid air transportation, they are not willing to do their part by following the recommendations of USTRANSCOM and AMC. Strategic airlift users must finally understand that if they want to get their forces to a crisis in adequate numbers on time, they must do the following:

1. Maintain applicable OPLANS with accurate TPFDLs, and in the event of a NOPLAN situation, have "fill in the blank" plans to expedite deliberate planning.
2. Get air mobility planners involved early in the planning process and use their planning factors.
3. Take responsibility for JOPES by training an adequate number of operators or replace JOPES with a more responsive system.
4. Understand and comply with U.S. Air Force ITV standards.
5. Provide deployed TALCEs and other air mobility personnel with the BOS they need.

USTRANSCOM and AMC need to continue doing the following to eliminate inefficiencies in planning and basing:

1. Developing specific measures of airlift success such as closure rates and ITV measurements. The arrival reliability rates of all five airlifts studied ranged from a low of 35.5 percent for DESERT SHIELD to 69.82 percent for UPHOLD DEMOCRACY, yet all five airlifts were considered a success! And specific measurements for ITV have yet to be developed. With the big emphasis on Quality Air Force, the service's version of total quality management, metrics should be easily developed.

2. Sending "swat teams" to users early in a crisis to educate them on air mobility.

3. Securing access to enroute bases for use in future contingencies.

4. Continue using aerial refueling on a large scale. It works very well in the current post-Cold War environment of shrinking enroute bases and remote forward operating airfields.

5. Using the GRLP. It is very effective.

6. Improving training for stage managers and ending the practice of "dumping" unwanted crew members in command posts.

The Department of Defense needs to reevaluate the feasibility of the current dual-MRC strategy. Research for this thesis reconfirmed the general belief that this strategy is not supportable from an airlift perspective. As Dr. Elliot Cohen, professor at John Hopkins and author of the Gulf War Airpower Survey said in 1994, "Logistically, you just can't do it."<sup>7</sup> General Fogleman also stated this to Congress that year. RESTORE HOPE, SUPPORT HOPE, UPHOLD DEMOCRACY, and VIGILANT WARRIOR all were just 5 percent or less the size of DESERT SHIELD, and some problems from the Gulf War still persisted.

One final recommendation is in order. It is absolutely imperative that strategic airlift efficiency continue to improve because of the increasing importance of strategic mobility in the post-Cold War era. This sea change is so profound that many do not yet fully comprehend its significance. Colonel Dennis M. Drew, USAF (Ret), a former dean of the School of Advanced Air Power Studies at Maxwell AFB summarized this sea change in late 1994:

The complexities of the new world order already are placing a premium on airlift, which long has lived in the shadows of its more glamorous bomber and fighter forces. But since February 1991 there has been little air-to-air combat and few bombs dropped in anger. Even with the movement of so many fighters and bombers to Iraq, the role of airlift has moved into the spotlight and likely will stay there.<sup>8</sup>

Alvin and Heidi Toffler go even further in their landmark book War and Anti-War by describing the evolving global environment which is ideally suited for efficient and rapid strategic air mobility forces:

Nothing marks today's moment of history off from the earlier periods more strikingly than the acceleration of change...This acceleration, partly driven by faster communication, means that hot-spots can materialize and war erupt into the global system almost overnight. Dramatic events demand response before governments have had time to digest their significance.<sup>9</sup>

With the United States Air Force transitioning into its third era marked by the preeminence of air mobility assets, change within the service will occur slowly. Why? Because change normally comes slow to most large organizations. The early years of the Army Air Corps and later independent U.S. Air Force emphasized the strategic bomber and pursued World War II and most of the Cold War accordingly. It then transitioned into a focus on fighter operations during the Vietnam War which culminated in the brilliant victory of DESERT STORM. Now, however, the era belongs to strategic airlift and its aerial refueling tankers.

The key, then is for the U.S. Air Force to accept this sea change and continue to improve its strategic airlift efficiency.

Success in the next crisis may depend on it.

Table 1. Planning Inefficiencies

PLANNING	DESERT SHIELD	RESTORE HOPE	SUPPORT HOPE	UPHOLD DEMOCRACY	VIGILANT WARRIOR
Del. Planning					
OPLAN	No	No	No	Yes	Yes
TPFDL	No	No	No	No	Yes
Airlift Planners	No	Yes	No	No	Yes
Plan. Factors	No	No	No	No	Yes
Crisis planning					
Comm.	No	Yes	No	No	Yes
JOPES	No	No	No	No	No
TPFDL Inputs	No	No	No	No	No
ITV	No	No	No	Yes	Yes
Closure Rate	35.5%	40.0%	59.2%	69.8%	59.8%

Table Key:

1. OPLAN: Did an OPLAN exist for this scenario prior to crisis action planning?
2. TPFDL: Did a transportation-feasible TPFDL exist?
3. Airlift Planners: Were personnel from USTRANSCOM and/or AMC involved in the planning process?
4. Plan. Factors: Were planning factors realistic?
5. Comm.: Were communications between AMC, USTRANSCOM, and the users effective?
6. JOPES: Was there an adequate number of JOPES-trained operators available at the deploying units?
7. TPFDL Inputs: Were last minute changes to the TPFDL efficiently input into JOPES?
8. ITV: Was ITV adequate?
9. Closure Rate: What percentage of missions arrived within two hours of scheduled arrival time in theater?

Table 2. Basing Inefficiencies

BASING	DESERT SHIELD	RESTORE HOPE	SUPPORT HOPE	UPHOLD DEMOCRACY	VIGILANT WARRIOR
Availability					
Enroute bases	No	Yes	Yes	Yes	Yes
FOBs	No	No	No	No	Yes
Aerial refuel	No	Yes	Yes	NA	Yes
Stage bases	No	No	Yes	NA	Yes
Infrastructure					
Comm.	No	No	Yes	Yes	Yes
TALCE	No	Yes	Yes	Yes	Yes
MHE/Supply	No	Yes	No	No	Yes
Personnel	No	Yes	Yes	Yes	Yes
Stage Mgrs.	No	Yes	Yes	No	No

Table Key:

1. Enroute bases and FOBs: Were there adequate numbers of enroute and FOB bases?
2. Aerial refuel: What effect did aerial refueling have on maximizing throughput? (Yes: Aerial refueling did have an effect; No: Aerial refueling did not have an effect).
3. Stage bases: Was a stage base quickly secured in theater?
4. Comm.: Were there adequate communications between bases in the airlift system?
5. TALCE: How effective were the TALCEs and GRLPs? (Yes=effective; No=not effective).
6. MHE/Supply: Was there adequate MHE, supply, maintenance, BOS, and other support at enroute and FOBs?
7. Personnel: Were deployed airlift personnel adequately trained?
8. Stage Mgrs: Were command post and stage management personnel effective in directing the airlift flow?

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Major Brett Scharringhausen  
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